

**THE INTENTION/RECEPTION PROJECT:
INVESTIGATING THE RELATIONSHIP BETWEEN
COMPOSER INTENTION AND LISTENER RESPONSE
IN ELECTROACOUSTIC COMPOSITIONS**

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THE INTENTION/RECEPTION PROJECT: INVESTIGATING THE RELATIONSHIP BETWEEN COMPOSER INTENTION AND LISTENER RESPONSE IN ELECTROACOUSTIC COMPOSITIONS.

The Intention/Reception (I/R)¹ project concerns an investigation of the relationship between composer intention and listener response in electroacoustic (E/A) compositions that contain or are perceived to contain real-world sound references (RWE/A). These are fixed medium works where the composer's communicative intent is based wholly or in part on the real-world referential characteristics of the sounding content. Such works are a subset of a corpus of works that appear to be on the margins of the contemporary and popular music world; one that appears to be based, for the most part within academia and the professional E/A art music community.

The I/R approach concerns investigating if the real-world sounding content and communicative intent of RWEA music might be accessible to a broader audience than that which is currently listening to such works. Indeed, the project is largely focussed on an audience that appears to be unaware that such music exists. In considering these particular issues this investigation of intention and reception focuses on addressing access and appreciation in RWE/A music, an investigation that ultimately seeks to reveal the potential (if indeed such a potential exists) for the broader dissemination of RWE/A music to new audiences.

The I/R project positions its fundamental point of departure in the research of Leigh Landy. The goal of the Intention/Reception project in this respect being the development, enhancement and expansion of several of his concepts. In particular: 1) the something to hold on to factor, 2) dramaturgy and 3) the shared listening experience. It also presents a review of pertinent studies already undertaken in the areas of intention and reception. Michael Bridger (1989), Luke Windsor (1995), François Delalande (1998) and Andra McCartney (2000a). This information is used as a foundation on which the design, development and implementation of the Intention/Reception project's empirical methodology is based.

The Intention/Reception project's methodology, the development of which is discussed in detail in this thesis, involves introducing RWE/A works that are unknown to the listening subjects, and then evaluating their listening experience. Through repeated listening and the introduction of the composers' articulation of intent (through a work's title, inspiration, elements that the composer intends to be communicated, eventually elements of the compositional process itself – in short, the 'dramaturgy' of the work) listening responses are monitored. The purpose here is to investigate to what extent familiarity

¹ For a complete list of the abbreviations used in this thesis see appendix I.

contributes to access and appreciation and to what extent intention and reception are meeting in this very particular corpus of E/A art music.

Results of the analysis and interpretation of data concerning the listening experience demonstrate that the types of work represented in this study are accessible to the new potential audience represented by the inexperienced user group. These listeners are able to access, appreciate and (most importantly) have an enjoyable and stimulating listening experience. When offered pertinent aspects of a work's dramaturgy inexperienced listeners are able to use this information to assist their listening experience in areas that have been identified as problematic and so enhance appreciation further. Results also demonstrate that on average, two-thirds of inexperienced listeners stated that they would enjoy listening to such works in the future.

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INTRODUCTION

The Intention/Reception project concerns an investigation of the relationship between composer intention and listener response in electroacoustic (E/A) compositions that contain or are perceived to contain real-world sound references (RWE/A). These works are a subset of a particular corpus of electroacoustic music that appears to be on the margins of the contemporary and popular music world.² This corpus appears to be based predominantly within academia and the professional E/A art music community. All works from within this corpus will be referred to collectively as ‘E/A art music/work(s)’ throughout this text.

RWE/A music comprises fixed medium works where the composer’s communicative intent is based wholly or in part on the referential characteristics of the sounding content. Fixed medium works are those where the “composer composes directly onto the recording medium (tape, hard disc)” (Camilleri & Smalley, 1998: 3) and where the performance of the work involves playback of the contents of the fixed medium over loudspeakers. Such works are sometimes referred to as ‘acousmatic’ works – an audio-only presentation of sound where the original, physical source of the sound is not present during listening. For example, the sound of a dog barking may be encoded on to the recording medium. When played back over loudspeakers the actual source of the sound, *the* dog, is not physically present; ‘dog’ is the source from which the listener *imagines* the sound to come.³ This is not to be confused with what Trevor Wishart terms ‘acousmatic listening’ “defined as the apprehension or appreciation of a sound-object independent of, and detached from, a knowledge or appreciation of its source.” (Wishart, 1996: 67) In this acousmatic listening situation the imagined source of the sound is bracketed out and so not interpreted from a real-world referential perspective; the sounding content is appreciated in terms of its physical, acoustic behaviour.

² The term ‘electroacoustic music’ covers a very broad spectrum of works, some of which are present in the contemporary and popular music world. Such works are already successfully accessing a relatively broad audience and so do not form a part of this investigation.

³ For a general definition of the term ‘acousmatic’ see also (Dhomont, 1996).

In the RWE/A work it is the real-world sounding content and communicative intent that allows a listener to respond with considerable empathy, in that the listener's ordinary perceptual habits of source recognition are being utilised. (Young, 1989: 4) This suggests that RWE/A works may be accessible to a broader audience than that which is currently listening to such works. Indeed, the project is largely focussed on an audience that appears to be unaware that such music exists. In considering these particular issues this investigation of intention and reception focuses on addressing access and appreciation in RWE/A music, an investigation that ultimately seeks to reveal the potential (if indeed such a potential exists) for the broader dissemination of RWE/A music to new audiences.

In this thesis the issues of access and appreciation are addressed from both a theoretical and practical standpoint. This includes the development of a dynamic, participant-based methodology and the presentation of an analysis of the results generated through the implementation of this methodology, the goal being to generate knowledge that contributes to supporting access in terms of our better understanding of how RWE/A music succeeds in terms of communicating content and experience with its listeners and thus in terms of our predicting how relevant it can be to today's and tomorrow's society. Once this has been demonstrated, it is believed that a greater case can be made to readdress the imbalance in terms of arts education and E/A art music's coverage by the communications media. In consequence, the imbalance with commercial music can be addressed based on knowledge, not just conjecture. (Landy & Weale 2003: 3)

Chapter 1 of this thesis establishes the theoretical background on which the I/R project is based. It positions its fundamental point of departure in the research of Leigh Landy conducted over the past fifteen years regarding the musicology of E/A music – beginning in 1990 with his paper presented at the International Computer Music Conference (ICMC). The goal of the I/R project in this respect being the development, enhancement and expansion of several of his concepts. In particular: 1) The something to hold on to factors (SHFs), 2) dramaturgy and 3) the shared listening experience. The project has also been designed to address and test a particular hypothesis and a theory relative to this hypothesis, both of which were established by Landy. (See Landy & Weale, 2003: 2; Landy, 1994b: 49)

Hypothesis – E/A art music is accessible to a broader audience than that which it reaches at present, particularly in works that contain or are perceived to contain real-world sound references (RWE/A).

Theory – By being offered something to hold on to (e.g., dramaturgic information) inexperienced listeners will be more able to access and appreciate a work and so have an engaging and enjoyable listening experience.⁴

Chapter 1 includes a discussion on how RWE/A music is relative to our natural listening processes, the means through which we make sense of our environment from an aural perspective, and so may be a way forward when addressing issues of access, appreciation and dissemination in terms of new, ‘non-specialist’ audiences. Might RWE/A be a type of E/A art music best positioned to offer listeners a way in to the wider world of E/A art music?

Using Jean-Jacques Nattiez’s analytical schema’ as a contextualising point of departure, a new term for the type of research being undertaken in the I/R project is established – ‘dramaturgic aesthetics’ – the investigation of composer intention and listener response as part of a ‘communicative continuum’ (a shared listening experience).⁶ This approach involves investigating the process of communication in the RWE/A work from the perspective of compositional intent (what the composer intends to communicate through the work) and listener reception (the extent to which and how this communicative intent is being interpreted and received by the listener). Through analysis of intention and reception data a generalised framework of SHFs, the processes through which listeners engage with a work and interpret its communicative content is established. The extent to which and how a work’s dramaturgy (amongst other things, the ‘why’ of the work) assists the inexperienced listener in terms of accessing the work and understanding its communicative content is also investigated. Based on the results of these two investigative

⁴ For the remainder of the thesis the hypothesis will be referred to as the ‘access hypothesis’ and the theory will be referred to as the ‘access theory’.

⁵ See (Nattiez, 1990: 140).

⁶ For a more detailed definition of the ‘communicative continuum’ see chapter 1.2.4.

processes, the extent to which a composer's communicative intentions are being received by listeners of varied E/A art music expertise is revealed. In consequence, revealing the extent to which and how a shared listening experience between composer and listener is taking place.

Literature concerning the areas of access, appreciation and dissemination in E/A art music appears to be quite modest, especially that concerning the listening experiences of non-specialist listeners. With only a small percentage of research being conducted concerning the potential for establishing greater access, appreciation and dissemination, most effectively established through an empirical investigation of the listening experiences of new potential audiences, one can only rely on theoretical speculation at best as to whether or not audiences unacquainted with E/A art music can access and appreciate such work.

Chapter 1 presents a review of pertinent studies already undertaken in the areas of intention and reception. This review focuses on four particular studies: Michael Bridger (1989), Luke Windsor (1995), François Delalande (1998) and Andra McCartney (2000a). McCartney's work in the areas of intention and reception has been a particular source of inspiration for the I/R project. Investigation of these studies highlights points of interest within existing intention and reception research and reveals areas that require further investigation in order to strengthen the I/R case. Such information is used as a foundation on which the design, development and implementation of the I/R project's empirical methodology is based.

Chapter 2 concerns my reflections on the practical implementation of a dramaturgic aesthetic methodology, establishing the appropriate methods through which to conduct a dramaturgic aesthetic research programme relative to the principal points of interest identified in chapter 1. Providing such a detailed and transparent account of the theoretical and practical development of the methodology is important, as the methodology has been designed as a template through which other studies may be conducted. The I/R project is not a self-contained, closed-ended thesis but has been designed as an open-ended point of departure through which a body of I/R research can be developed.

In the first part of chapter 2, a general, theoretical operational method based on qualitative research practices that include protocols from action research (AR) is established. The goal here is to develop a platform through which the listening experiences of potential new audiences (in their own words) can actively contribute to the E/A art music knowledge base. The potential for establishing a feedback loop is discussed, a system whereby information gained regarding the listening experience, appreciation and the communicative relationship between composer and listener is fed back to E/A art music composers and practitioners. How this creates a further potential to establish triangulation whereby composers and practitioners use this new knowledge to actively and pragmatically address the issues of access, appreciation and dissemination is also discussed.

The second part of chapter 2 concerns the practical developments of the methodology, the designing of test procedures and the methods of data collection. This includes:

Ethical procedures and guidelines.

Test composition selection procedures.

The design and development of the composer intention and listener response questionnaires.

Listener testing participants and their division into 'user groups'.

Listener testing procedures.

In the third part of chapter 2, the results of a pilot project used to beta-test the methodology are presented. The importance of participant feedback regarding the function of the testing procedures is discussed – how the participants are best positioned to offer feedback on what aspects of the methodology work or do not work, and why. Adjustments that were made based on the results of the pilot project are also presented. Finally, the treatment of bad data is discussed; what constitutes bad data, how much bad data was offered and how this was dealt with.

In chapter 3, the results of listener testing for each of the selected test works are analysed. There is a particular focus in this chapter on highlighting data regarding the

listening experiences of listeners of varying E/A art music experience. Similarities and differences in listening strategies employed by listeners in the three user groups in relation to the type of content and its communicative relevance in each of the test works are revealed and discussed. This is important information through which to understand the extent to which E/A art music knowledge affects listening strategies, access and appreciation; and in demonstrating the types of content that are most and least accessible to these listeners.

The most often identified sounds in each test work for each of the user groups are presented in this chapter. Similarities and differences that occur between user groups are highlighted and discussed. Tables of listener responses to the question “what might this piece be about?” are also presented. These are organised into general thematic categories revealing the most prevalent general themes identified as to what the work might be about by listeners in each user group. Results of the analysis of the most identified sounds when combined with results concerning the most prevalent thematic interpretations are then used to reveal the principal SHFs used by the listeners to establish the most prevalent interpretations of the test works.

This initial listener response data set is then mapped on to composer intention information to reveal the extent to which composer intention is being received by listeners before any dramaturgic information has been offered. This reveals areas in which communication is strong or weak. This data is used later in the analytical process, where it is compared with listener response data solicited after dramaturgic information has been provided. This procedure is used to examine the extent to which dramaturgic information and repeated listening assists the listening experience.

Results concerning the analysis of second listening experiences are presented, including listener responses to the title in terms of how it assisted/alterd their listening experience. A particular methodological problem encountered during the investigation of the title as a tool of access is highlighted. This minor flaw in the methodology is discussed and a means of addressing this flaw in future projects that utilise the I/R method is offered. The identification of pertinent sounds relative to the composer’s intention is re-visited at this stage. The extent to which repeated listening has been demonstrated to help the

listeners identify aspects of the work that are relative to the composer's communicative intention, those that were not engaged with during the first listening is also discussed.

Third listening responses are analysed with a particular focus on revealing the extent to which the dramaturgy of the work, when offered to the listeners assists the listening experience. Pertinent information solicited from post-testing discussions is also presented and discussed at this stage.

Accessibility is initially addressed in chapter 3 through an analysis of listener responses to a particular set of access-based questions in the listener response questionnaire. Statistics concerning the extent to which listeners noted that they would be happy to listen to other similar types of work in the future are also presented. Listener responses concerning the most and least engaging aspects of the work are then analysed. This data is fundamental in addressing the access hypothesis.

Chapter 4 is the concluding chapter. It concerns my interpretation of the results of data analysis carried out in chapter three, establishing a generalised framework of findings relative to the investigative goals of the project. Most of the results discussed in chapter 4 concern the inexperienced user group, as the fundamental goal of this study is to test the potential for accessing new audiences that are currently assumed to be inaccessible.

In part one of this chapter, a generalised framework of sound identification techniques used by listeners from all user groups to initially engage with and make sense of the sounding content of the work is established. The principal differences between the sound identification techniques used by the listeners in each user group and how these differences affect their interpretation of certain aspects of a work's communicative content are presented and discussed. The terms 'micro-level interpretation' and 'macro-level interpretation' are introduced and discussed at this stage. Micro-level interpretation is the process through which listeners identify and interpret certain sounds and/or combinations of sounds prior to their 'macro-level interpretation', this is the process through which listeners combine identified sounds and their meaningful significance when interpreting what the work might be about as a whole.

By combining pertinent aspects from the framework of sound identification techniques with analysis of listener response data concerning listener interpretations as to what the work is communicating, a generalised framework of SHFs is established (expanding on those established by Landy⁷). SHF data is useful as listener response feedback data for composers and SHF categories may also be used in an abbreviated format by the composer of a work to indicate a general listening strategy that the listener may wish to follow.

The second part of chapter 4 concerns the results of my investigation into the influence of the title on the listening experience and the potential for dramaturgy to be used as a tool of access and appreciation. Generalised statistics are presented concerning the extent to which and why the listeners felt that the title was an important aspect in terms of assisting the listening experience in each of the test works, and also in terms of RWE/A works in general. Four generalised categories of influence, the ways in which listeners used to the title to assist their listening experience are presented.

Results of the interpretation of data concerning the extent to which dramaturgic information assisted the listening experience and how listeners used this information as a SHF during the listening experience are presented and discussed. This includes statistical data concerning the extent to which the inexperienced listeners felt that dramaturgic information gave them a helping hand. The results of data analysis and interpretation in these areas are fundamental to addressing the access theory.

The results of repeated listening analysis are presented by way of a generalised list of the ways in which repeated listening assisted the listening experience. The extent to which inexperienced listeners are capable of and happy to engage in 'active' listening, a process that appears to be the antithesis of their usual listening practice when listening to popular music, but one that is essential when listening to RWE/A works is also discussed.

The I/R project demonstrates that through a dynamic, user-centred approach to access and appreciation, widening participation in E/A art music can be vigorously addressed

⁷ See (Landy, 1994b). Also, see chapter 1.2.1.

based on empirical, first-hand evidence gathered from the participants themselves rather than relying on the theoretical speculations and individual experiences of the specialists in the field. By offering listeners something(s) to hold on to and encouraging an active approach to listening, the alienation that some listeners may feel when first hearing such works may be relieved thereby stimulating the potential for broader appreciation particularly concerning listeners who are new to the field. It is hoped that these findings will invigorate the access debate and instigate direct action in terms of actively seeking out and attracting new audiences (marketing), particularly for those composers who are interested in accessing new audiences.

The methodology itself has demonstrated a potential for use as a listening exercise, an introductory approach to listening to RWE/A music, a means of indicating to the new audience how to listen and what to listen out for. This has also been demonstrated to be particularly relevant from an educational perspective.

The ‘dramaturgic aesthetic’ approach of studying audience responses in relation to the artists’ communicative intent can also offer other art forms a means of assessing the potential accessibility of new audiences. As with RWE/A music, the I/R methodology can also be used as an art experiencing exercise in general, using a similar method of offering audiences a way into the works through dramaturgic information.

CHAPTER 1

THE INTENTION/RECEPTION PROJECT IN CONTEXT

1.1 Establishing the foundations of the Intention/Reception project.

In 1990 Leigh Landy asked a question of International Computer Music Conference (ICMC) attendees through the title of his paper, “Is more than three decades of computer music reaching the public it deserves?” (Landy, 1990: 369) His concluding response, “of course not!” was based on his contention that, at that moment “contemporary music [was] suffering from being (one of) the worst supported art(s)...especially in terms of its distribution.” (Ibid.) His view, grounded as it was in questions of dissemination and access, introduced a potential discourse into E/A art music research that had not appeared to have been considered to any great extent previously – that E/A art music could and *should* access an audience outside of that which it generally accessed, and that based on this premise E/A art music research and artists’ endeavour should devote a certain degree of its investigative energy towards addressing this issue.

Where a significant percentage of research methodologies had been focussed on the analysis of the musical work with a particular focus on its means of production, and musical computing gatherings consisted of discussions concerning new research developments, particularly with regards to new developments in hardware and software; (Ibid.) Landy proposed an approach that looked towards investigating why the works reached so few people? Why many people still had difficulty appreciating a good deal of this music? What was being done with all of the new developments beyond their technical application (a musicological question); and why the results of such developments in terms of the music that they facilitated were still extremely marginal in a world in which commercial digital music was the most listened-to music of all? (Ibid.)

As a consequence of these emerging potentials, Landy began reflecting on how E/A art music research might proceed in terms of establishing the means through which to address such issues, i.e., how could E/A art music as a particular genre best position itself to achieve broader dissemination, access and appreciation? Landy situated many of the factors contributing to the state of E/A art music in extra-musical issues such as, music in school, propagation of the work through the various communications media, audio-visual collaboration, concert practice and socio-economic factors; all of which involve questions of *dissemination* and as a direct consequence *access*. (Landy, 1990: 369) These two factors have been operating at the heart of Landy's research for the past fifteen years.⁸ Revisiting his 1990 paper in 2004, Landy asks "almost a decade and a half later, have things improved? My point of departure was that digital sound is everywhere, but electroacoustic music, the most used term in [*Organised Sound*]⁹ for the relevant body of work, five and a half decades old, is still having teething problems in most countries in terms of its acceptance." (Landy, 2004: 227)

The I/R project situates its primary point of departure in certain aspects of Landy's research, in particular the issues of access and appreciation in E/A art music. The goal of the project is to introduce a dynamic methodology into E/A art music research, one that has been developed as a complementary phase of Landy's research and as a response to similar studies in the areas of intention and reception. The methodology has been designed to empirically address and test the access hypothesis and access theory.

1.1.1 The listening experience.

The extensive range of sound sources admitted into music via the electroacoustic medium has initiated a revolution in the sounding content of musical works, appealing to a variety of listening responses not fully encompassed in previously existing materials. (Smalley, 1992: 514)

⁸ A selection of written scholarship representing the development of Landy's ideas on which the I/R project has based many of its methodological approaches is located in the bibliography.

⁹ *Organised Sound*: an International Journal of Music Technology (Cambridge University Press).

Ever since Pierre Schaeffer paved the way for composers to integrate the sounds of the environment (termed *real-world sounds* throughout this thesis) into their musical works,¹⁰ the community of composers composing in the various genres in which such sounds feature have developed a diverse range of compositional methods, produced numerous writings and entered into discussion concerning the compositional potentials of such sounds. Trevor Wishart describes such real-world sounds as ‘non-lattice materials’, that is, sounds that are not conventionally notatable [sic]. (Wishart, 1996: 11) This factor, along with Pierre Schaeffer’s notion of the ‘primacy of the ear’¹¹, and the ‘acousmatic’ nature of RWE/A music¹², has contributed to a significant amount of the discussion concerning the use of these materials in the E/A art work being contextualised through the listening experience.

Among others¹³, Denis Smalley and Trevor Wishart have written about the listening experience from a composer-listener¹⁴ perspective. Indeed, all writers in any way associated with the writings of Pierre Schaeffer equally celebrate his notion of the primacy of the ear. In *On Sonic Art* (1996), Trevor Wishart addresses communicative issues in the composition of E/A art music (what he terms *sonic art*) from a perceptual perspective. “This book is about *listening*...What I am searching for...are criteria for composing music with non-lattice materials which ‘work’ in some experientially verifiable sense [...]” (Wishart, 1996: 339) Similarly, Denis Smalley, in *Spectro-morphology and structuring processes* notes that,

Listeners can only apprehend music if they discover a perceptual affinity with its materials and structure. Such an affinity depends on the

¹⁰ The result of his work being the invention of *musique concrète*.

¹¹ When in 1948 Pierre Schaeffer gave the name *Concrète* to the music which he invented, he wanted to demonstrate that this new music started from the concrete sound material, from heard sound, and then sought to abstract musical values from it. This is the opposite of classical music, which starts from an abstract conception and notation leading to a concrete performance. (Chion, 1983).

¹² In RWE/A music, visual confirmation of the sources of heard sounds is not available, therefore the act of listening is the primary sensory source of information.

¹³ Having consulted French sources from translations, bibliographic references and eventually through discussions with colleagues I am aware that some, primarily, French-language authors, such as François Delalande, have addressed issues in the areas of composer intention and listener response. I discuss Delalande’s only English language publication in chapter 1.3.3.

¹⁴ This is an E/A art music listener who also composes E/A art music. Also termed a ‘specialist’, ‘experienced’ or ‘highly-experienced’ listener in this thesis.

partnership between composer and listener mediated by aural perception...The range of sound sources available as materials for electroacoustic music...demonstrate an unprecedented broadening of our conception of the nature of music, demanding of the composer a much deeper and broader understanding of the role of sound in human life [...] (Smalley, 1986: 61 and 92)

Both Wishart and Smalley, as do many others, seek to reconcile the art of E/A art music composition with the listening experience, the means through which the listener identifies and interprets the content of the work. Both authors agree that the process of composing an E/A art work in terms of its content and expressive/communicative intent should be consistently evaluated against the listening experience, in order to produce a work that is potentially accessible to the perceptual abilities of the listener.

Composers...often fruitfully conceive their music following processes, ideas and systems that are not perceptually determined...Regrettably there is too much electroacoustic music that demonstrates a disdain for listeners' indicative¹⁵ needs [...] (Smalley, 1992: 551)

In order to address this situation Smalley suggests that it is important for composers to know what listeners are listening to, what they are listening out for, and why they are listening. (Smalley, 1992: 515) It is here where the notion of investigating both composers' intention and listeners' (that is, not necessarily only the composer-listeners') reception seems a logical next step.

We need to achieve an awareness of the strategies which listeners adopt and how they construct their listening. This is because meaning is located in the processes occurring between the sounds of music and people, rather than being invested in the sounds of music themselves. (Camilleri & Smalley, 1998: 5)

¹⁵ The indicative relationship (one of Denis Smalley's 'modes of listening') is an object-centred communicative relationship. The sound is experienced as a message, through a process whereby the identification of the sound, its causal identity, begets a network of associations based on our experiences in the world and therefore can be the basis of the shared experience. (Smalley, 1992: 516) Although centred on the object, the indicative relationship involves subjective reactions to the object based on the subjectivity of the network of associations in relation to the lived experiences of the listener apprehending the sounding content.

Research in this area has resulted in the development of hypotheses, theories and research methodologies based on general aspects of perception, reception, response and interpretation.¹⁶ These approaches often situate signification in the RWE/A work in broader musically extrinsic concerns.¹⁷ By examining the consequences of opening the doors of perception to real or imagined sources which refer to the world outside the listening space, to events, stories and narrative, these approaches have established the potential for investigating the listening experiences of a broad cross-section of listeners. (Emmerson, 2000b) “The broad continuum of [the E/A] sound world, stretching between the imagined and the real, provides the most comprehensive basis for studying human relationships with sonic phenomena” (Smalley, 1992: 550)

A great deal of RWE/A music has a communicative intention that is not solely based on the intrinsic physical structure of the work. Some of these works have intended extra-musical meanings. These communicative intentions may have developed as part of an inspired motivation, an engagement with a meaningful stimulus that has compelled the composer to produce the work and to seek to communicate the essence of their own relationship with the extra-music meanings of the materials to an audience. “[T]he electroacoustic medium...needs to be celebrated, emphasized, and developed for its originality and imaginative revelations of human experience.” (Smalley, 1992: 515) These humanistic factors present within the communicative aspects of the work, those relative to the lived experiences of the composer in the sounding environment of their world offer enticing potentials for a shared listening experience, one that is not only accessible to other E/A art music composers, or those studying or teaching aspects of E/A art music – an audience that despite research such as Smalley’s, Wishart’s and others, appears to be the only one listening to such works.

¹⁶ A list of articles representing research and theoretical discussion in these areas can be found in chapter 1.3.

¹⁷ “Simply defined, the intrinsic approach emphasizes formal relations within a work (‘music is itself’), while the extrinsic approach concentrates on relations with non-musical experience.” (Smalley, 1992: 550) Through this thesis the use of the terms intrinsic and extrinsic (also termed musical and extra-musical respectively) are based on this definition. Many works, including those investigated through this research, have a communicative content based on both intrinsic and extrinsic factors.

The I/R project concerns (in part) an investigation of the listening experience that does not only reflect that of the specialist listener. Indeed, the question in this case is, can RWE/A works communicate to and be appreciated by an audience unacquainted with E/A art music?

1.1.2 Electroacoustic art music that contains real-world sound references.

All electroacoustic sound, unless performed live on some electronic instrument, is disembodied – it comes from a hidden virtual source. As such, it creates an immediate link with the imagination, memory, fantasy, the world of archetypes and symbols, essentially the internal world of human consciousness. (Truax, 200a: 122)

It is a common experience in the majority of listening situations to identify the source of the sounds that we are hearing. Our evolutionary development established this predisposition towards source identity – our drive to survive required the need to identify a predator or prey, most specifically when sight was ineffective. (Wishart, 1996: 129) In the natural, prehistoric situation, when the ‘Pythagorean curtain’¹⁸ had been pulled across our surroundings (perhaps at night, or in a situation where the sound emitting entity could not be seen) and we had to rely on sound alone to identify and construct our surroundings, the identification of a sound in terms of its imagined source was paramount to our survival. This natural relationship between us as sensory beings and the world around us is that of an indicative relationship. In terms of the aural sense, the indicative relationship concerns sound as the communicator of a message, sound is interpreted in a manner which supplies us with information about the source of the sound, its location in space relative to our spatial position and the meaning of the sound from our particular perspective contextualised by the environment in which the sounding content is heard and through our lived experiences of sound.

¹⁸ The term ‘Pythagorean curtain’ refers to the method employed by “initiates in the Pythagorean cult who spent five years listening to lectures...delivered from behind a screen (so that the lecturer could not be seen) while sitting in total silence.” (Wishart, 1996: 67) The source of the heard sound was obscured from view.

The presence of real-world sounds in the E/A art work has the potential to stimulate the listener into actively engaging with the work through an indicative relationship, as s/he instinctually seeks to relate such sounds to experiences grounded in extra-musical interpretations – the direct recognition of sound source, visually (and perhaps verbally) in the mind and its meaningful interpretation in relation to its being a sound within an expressive, communicative art form. “Electroacoustic music, through its extensive sounding repertory drawn from the entire sound-field, reveals the richness and depth of indicative relationships more clearly and comprehensively than is possible with other musics.” (Smalley, 1992: 521)

If the indicative relationship is the natural, instinctual method that we, as human beings use to generate meaning about the sounding world we inhabit, and certain types of E/A art music use such real-world sounds as communicative sound events; might RWE/A works be accessible, in terms of their content and extra-musical communicative aspects, to an audience inexperienced in E/A art music listening practices? Indeed, might this type of work offer a way into the world of E/A art music for the uninitiated listener? These questions present an interesting research potential whereby the listening experiences of electroacoustically inexperienced listeners could be investigated in terms of their reactions to this type of E/A art music. Such an investigation may also be designed to reveal the accessibility of such works to new potential audiences and so present an empirically demonstrated potential for establishing a broader dissemination of certain types of E/A art music. Moreover, investigating the potential accessibility of E/A art music to new audiences, those outside of the professional/academic E/A art music community – taking the music out of its specialised context and investigating its communicative function within less specialised listening situations – may open a door through which further research in this area can be conducted, thereby establishing stronger links between areas of E/A art music research and the world outside of academia. As a consequence, demonstrating that the practice of E/A art music has a potential relevance within broader society.

1.1.3 The internal propagation and dissemination of electroacoustic art music.

Not only is the investigation of listener perception in E/A art music pertinent at the micro-level in terms of how the listener perceives and interprets the sounding content of a work, but it also pertinent at the macro-level. For example, Simon Emmerson contends that the “public perception of a large part of electroacoustic music is that it has ‘retreated’ into academia and other specialist institutions [...]” (Emmerson, 2000b: 1) Indeed, Universities, and other higher institutes of learning do appear to be the sounding board for a great deal of this work, that which I have termed E/A art music and RWE/A music in this thesis. My interest in this particular issue concerns why this is so? Is it a content issue? An appreciation issue? An access issue? Or is it that such music is simply not actively reaching out to new audiences? Terminology may be a factor when considering the public’s perception of E/A art music. All of the general public participants involved in the I/R project had no idea what the term ‘electroacoustic music’ in all of its manifestations was or meant prior to their participation in the project. These participants comprise the ‘inexperienced user group’¹⁹, listeners who had not knowingly listened to E/A art music previously. The statement that they did not know the term ‘electroacoustic music’, is a truism and perhaps spurious as an argument, however not one of the general public listeners invited to participate in the study had knowledge of the term, and not one potential participant approached to be included in this group had to be rejected due to their knowledge of E/A art music. This included those who were musically educated and those who were actively listening to popular works that could be categorised as E/A works, for example, Autechre, SquarePusher, Aphex Twin – these artists were identified by twelve inexperienced listener testing participants (20% of all inexperienced listeners tested) as artists that they were currently listening to. It should be noted that none of these artists were mentioned by the highly-experienced listeners.

Unfortunately people in computer music do not seem to have...broader concerns for social issues or the media, or if they do they don’t see these as related to their professional work...this limits their audience and places

¹⁹ See chapter 2.2.5 for more on the use of ‘user groups’.

them on the fringes of the culture. (Truax, 1991: unpaginated website text)

E/A musicology does appear to be a practice that often reflects the aesthetic sensibilities of the specialists and does not fully integrate the notion of the ‘outsider’ into its discussions. Landy has been critical of this particular state of affairs, “why do members of [the E/A art music community]...avoid writing introductory publications for a general public[?]” (Landy, 1999: 62) Again, this concerns questions of dissemination and a lack of adequate points of access for ‘outsiders’.

We in the electroacoustic community have basically created a microcosm of traditional musicology. We have often searched for an inward-looking type of knowledge that *is* relevant, ideally quantifiable, but that is *not* the only information worth knowing. (Ibid.: 69)

Barry Truax has also been quite outspoken regarding the internal propagation of E/A art music writing that,

The electroacoustic community is supported mainly by its own practitioners as a kind of “parallel culture”, the best result of which is that it is vibrant and open-ended, the less fortunate aspect being that it can be insular and not very self-critical. Being a member of this community...can be very comforting, but it can also lull you into the complacency of talking to (and composing for) only like-minded colleagues who accept what you do simply because it’s like what they do, and not because you actually have anything important to say. (Truax, 1999: 148)

E/A art music of the type being investigated in this project does not appear to have an identity within the greater bodies of contemporary and popular music; instead it has carved itself a niche within the academic and E/A art music community. As such, there is a certain internal propagation occurring where E/A art music is to a great extent shared amongst a particular peer group. A consequence of this is that there are few studies reaching out from this peer group into new territories, actively seeking potentially new audiences. Bruce Pennycook offers speculation as to the reasons why E/A art music is not reaching a non-electroacoustically experienced audience. He states that the optimistic approach of

assuming that such non-electroacoustic audiences do not have the training to be sufficiently informed in terms of E/A art music appreciation, may be idealistic optimism. The reality could be that “contemporary composers are not speaking to anyone outside the institutions that shelter them and...modern musical discourse has become so insular and private that outsiders cannot hope to decode the messages.” (Pennycook, 1992: 561) Such speculation can only remain speculative until it is tested.

Playing E/A art music works for ‘outsiders’ and recording their listening experiences, can reveal the extent to which listeners are able to have an engaging listening experience. The extent to which the composer’s communicative intent (that is if one is present) is being received can also be analysed to reveal if such ‘messages’ are being successfully decoded and if the reception of these messages contributes to greater appreciation. Through this approach it is also possible to offer listeners the means through which to engage with such works during the listening process itself, by providing them with pertinent information that, if they choose, can be used in terms of accessing the communicative content of the work. The goal in this case would *not* be to completely control the listener but to offer them information that helps them find their way into the work. It would then be possible to ascertain, through direct questioning, if participating listeners would be interested in listening to such music in the future, the results of which would demonstrate the potential for broader dissemination of at least certain types of E/A art music.

Internal dissemination.

Regarding the dissemination of E/A art music; many, if not all, E/A art music composers create works that seek to engage the listener in a stimulating listening experience. Some compose their art for a listener other than themselves, wanting to communicate something through sound, something that is accessible to the perceptual abilities of the listener. As their audience demography is local to the field, the E/A art music composer (as with many other composers/music makers) intends towards where the audience is. This may be in order to satisfy the needs of the artist’s ego (one composes to have one’s own work heard, to be the provider of an engaging aesthetic experience and so gain satisfaction from being the provider of such an experience). But as the audience for E/A art music is a particular

insular community, the majority of which are based in academic establishments, the work itself becomes internally disseminated.

E/A art music is performed in predominantly non-commercial settings – intimate concerts that for the most part receive little to no commercial exposure in the broader, popular communications media – another reason perhaps why E/A art music is not accessing a broader audience. It should be noted however that the growth of radio and web-radio broadcasts including E/A art music²⁰ is showing a positive trend and so may be one of the means through which the exposure of E/A art music may move outside the specialist's domain. This is of course only possible if non-specialist listeners who might enjoy such works know that they exist and where to find the radio broadcasts of these works.

It should be noted at this stage that suggesting that there may be a potential for the broader dissemination E/A art music to a wider general public is to some extent idealistic. So perhaps the unsayable must be said. Much E/A art music can and never will be to the taste of a public wider than its current one. Its vocabulary and, often, its complexity (the extent to which the listener has to deconstruct the content of the work in order to make sense of it and interpret what it might be communicating) will not easily root within the context of a wide public. (Landy & Weale, 2003: 2)

It is inevitable that electroacoustic styles that seem to imply radical shifts away from both the prevailing 'classical' heritage and the 'popular' mass market will only gradually find wider acceptance. But the spread is inevitable as increasing numbers of young electroacoustic composers committed to indicative breadth filter through the culture, and as an increasing repertory becomes more widely distributed [...] (Smalley, 1992: 552)

In this case, any step taken towards realising the idealistic notion of a more widely disseminated E/A art music would surely be far more acceptable to many composers

²⁰ For example, 'Resonance 104.4 FM' which broadcasts across the London, UK area and as a webstream at www.resonancefm.com (see also <http://www.sonicartsnetwork.org/RADIO/RADIO.html>). Other examples include, Australia's RTR92.1FM (see <http://www.rtrfm.com.au/programs.htm>). More listings can be found at <http://nonpopradio.com/>

working in the field of E/A art music than the current state of affairs. Indeed, an active approach towards establishing broader dissemination may increase the speed at which the gradual acceptance of E/A art music in terms of audiences and the communications media occurs.

1.2 Delineating the principal areas of investigation.

1.2.1 The something to hold on to factor.

The SHF, a term established by Leigh Landy, was a principal factor in the formulation of his access theory, “Today’s listener, especially those who have had little experience with timbral composition, can profit by having something to hold on to in works in which many traditional elements are not prominent.” (Landy, 1994b: 49) To make the transition from the theoretical to the empirical, Landy conducted an investigative experiment culminating in a list of things to hold on to, realised “after many listening sessions of works recorded on CD.”²¹ (Ibid.: 52) The SHFs identified through this process were:

i) Parameters

- a) Dynamics
- b) Space
- c) Pitch (and rhythm)

ii) Homogeneity of sound and the search for new sounds

- a) Works based on one or a few pitches
- b) Homogenous textures
- c) New sounds
- d) The voice and live instrument plus tape

iii) Textures not exceeding four sound types at once

iv) Programmes

- a) Nature

²¹ The list of works is substantial, see (Landy, 1994b: 58-60).

- b) Recycled known sounds – musical and anecdotal
- c) Acousmatic tales
- v) And so on²²

Having cross referenced all of the listed works in the provided CDiscography (Ibid.: 58-62) with the SHF categories above, Landy presents a system wherein the works are categorised in terms of their pertinent SHF characteristics. For example, Javier Alvarez' *Mambo à la Braque* contains SHF categories: i-c/rhythm, iv-b, iv-c. (Its rhythmic content, its recognisable musical and real-world sounds and its acousmatic content). Landy's SHF system offers a general key to a work's content, it is particularly relevant for listeners who "fail to find the "key" to enter into this music [and so] can make crossing the threshold into a work much easier." (Ibid.: 57)

Considering the number of works that have been categorised by Landy alone using his SHF system, it is not unfeasible to imagine a continuation of this particular system of categorisation for the current repertoire, and for future works, through a substantial, multi-participatory, SHF categorisation project. The SHFs are generalised in Landy's model, such generalisation is important in this context, as the identification of SHFs is based on his own listening experiences which, as with all listeners, can be individually subjective. So in order to reflect the *pertinent* SHFs for *all potential listeners* Landy establishes a system of categorisation that is as objective, uncomplicated and unspecialised as possible, one that is based on recognisable sounding elements within the work. That is, sounding elements that do not require electroacoustically specialised listening or analytical skills to make sense of and appreciate in terms of the overall communicative aspects of the work.

The I/R project is expanding the investigation of SHFs, by way of collecting the listening responses of a range of listeners, rather than those of a single listener. This includes listeners who are unfamiliar with E/A art music as this is the important audience when investigating access and dissemination potential. The I/R methodology seeks to reveal the actual, rather than theoretical/hypothetical SHFs of a potential new audience for

²² For descriptions of these categories see (Landy, 1994b: 52-57)

RWE/A works. But the project is also soliciting the SHFs that the composer of a particular RWE/A work wants the listener to hold on when listening to the work, those elements that the composer feels are the general keys to the intended communicative aspects of the work.

By comparing listener response SHFs with the SHFs highlighted by the composer as being the pertinent keys to entering the work areas where the SHFs are strongest and weakest in terms of the meeting of intention and reception can be revealed. For example, a composer notes that the SHFs in a particular work are *a*, *b* and *c*. When listening to the work, a majority of listeners are shown to be identifying SHFs *a*, *x* and *y*. In this example there is one point of commonality and two of dissimilarity. The next step would be to investigate why such commonality and dissimilarity exists and to what extent and how the areas of dissimilarity can be made common, if possible, and the extent to which this assists access and appreciation.

The I/R project is investigating listener responses with respects to a work's communicative content that which is often described by the composer in the track notes. This approach sacrifices a certain amount of objectivity in terms of the SHFs, as meaning in this sense is rooted in the listener's mental, linguistic designations of their world of experience.²³ (Denzin & Guba, 2003: 270) The interpretation of meaning (communicative aspects) in a RWE/A work is a subjective process. However, there may be patterns of similarity between the interpretation strategies and meaning-based SHFs of listeners and the communicative intentions of the composer. Investigating these areas may reveal the pertinent SHFs used to interpret meaning in the work; even if, as the case may be, there is a lack of I/R parity (potentially the case for the inexperienced listener).

1.2.2 Dramaturgy.

The dramaturgy of an E/A art work and its potential as a means for establishing greater access and appreciation are principal points of interest in the I/R project. Regarding the relevance of dramaturgic information in terms of opening up the work of art for an

²³ For more on the function of meaning in RWE/A music see chapter 1.2.8.

inexperienced audience, the following personal experience may offer an interesting insight. On a visit (2004) to the Tate Modern with a group of individuals who had never had any dealings with contemporary art, I observed that their initial experience of the first series of works (painting and sculpture) was one of incredulity, confusion, alienation and derision, often accompanied by the question, “what is it supposed to mean?”. Having been directed to read the artist’s written articulation of her/his artistic vision (aspects of the work’s dramaturgy), their experience of the work changed. They began to experience the work through the context of the written information and began to appreciate how the expressive, communicative intention of the art work functioned in relation to its visible form. From this point on their approach to other works demonstrated an alteration to their experiential strategy in that they initially sought out the work’s written dramaturgy before experiencing the work visually. What is most important here is that their appreciation and enjoyment of the art appeared to be significantly enhanced by this new experiential strategy – dramaturgic information was the key.

The term *dramaturgy* and the concept of dramaturgy in E/A art music, in particular its *theoretical* potential as a means of offering listeners who are new to E/A art music “access into the work’s universe” (Landy, 2001) was introduced by Leigh Landy (1990, 1991, 1994b, 2001). The term dramaturgy has been borrowed from the theatrical arts as there exists no comparative musical term. Dramaturgy is more involved with the question of ‘why’ something takes place and in what contexts, rather than the ‘what’ or ‘how’ of the endeavour. However, it does not exclude the ‘what’ or ‘how’ if these factors contribute to the communicative intent of the work and are deemed pertinent to offering the listener a way into a work. Dramaturgy, as it is being used in this thesis, encompasses all of the elements that have *influenced* the creation of a given work. Dramaturgy as an access tool concerns those influential elements that a composer feels may offer a greater insight into the work in terms of its content and context, elements that when offered to the listener may contribute to a greater understanding and appreciation of the work. The dramaturgy of an E/A art work may therefore concern a composer’s ideas, motivations, inspirations and aspirations as well as the development of these during the composition of the work. It includes, but is not limited to what a composer intends to communicate through the work.

In the theatre it is often the ‘dramaturg’ who decides what the audience will need to know, or need to be told in the programme notes in order to fully appreciate the work of the playwright and production team. Dramaturgy has always been used to allow someone appreciating art to obtain a greater insight into artists’ intention. (Landy, 1994b: 51) Indeed, elements of a work’s dramaturgy are sometimes included in the programme notes or track notes that accompany a work in its CD format or at the performance of a work in a concert setting. Despite this, little research has been conducted that investigates the function of dramaturgic information in terms of the extent to which listeners use this contextualising information to assist the listening experience. In consequence such contextualising information has not been empirically evaluated to any great extent in terms of its the effectiveness as a means through which to assist access and appreciation.

The investigation and *empirical* evaluation of the function of dramaturgy in the listening experience, in particular its potential as a means through which to assist the listening experience for inexperienced listeners, has therefore been a principal goal of the I/R project. The I/R method, at all levels has been designed to accommodate this investigative goal. This has involved the designing of a composer intention questionnaire (CIQ) that has been used to solicit dramaturgic information about a particular work from the composer. To a certain degree the CIQ assumes the role of a ‘dramaturg’. The I/R method has also developed a testing methodology wherein this dramaturgic information is offered to listeners and their responses in relation to their responses when dramaturgic information is withheld are monitored.²⁴ This is important, as the I/R method has been designed to investigate the extent to which offering the inexperienced listener this deeper level of contextual information assists the listening experience and leads to greater access and appreciation. It is also important in terms of investigating what aspects of a work’s dramaturgy are most and least useful to inexperienced listeners. The ultimate goal being to find the means of disseminating E/A art music to a broader audience – is dramaturgy one potential key? As results in this area of the investigation show, most inexperienced listeners who participated in the project felt that dramaturgic information was an important aspect in

²⁴ For a more detailed account of the practical aspects of the methodology see chapter 2.

terms of offering them a way into the work, and that it enhanced their appreciation of the work.²⁵

The use of dramaturgy as an access tool does not have to be confined to works with a communicative intent located solely in extra-musical meanings, but can include abstract E/A art music where the sounding content is unrecognisable and is intended to be so. Dramaturgic information in the abstract work may concern what it is that the composer found interesting, inspirational, emotional and stimulating about composing in such an abstract way. It concerns why they choose to compose in this way, and why such inspiration has led to and influenced the composition of a particular work or corpus of works; i.e., how and why does the composer have an engaging listening experience when listening to the work that *they* have produced.

It should be noted that even after being offered a helping hand in terms of accessing and appreciating a particular work or indeed a corpus of works, a listener may still find it unengaging. And of course, any listener can choose to ignore the dramaturgy of the work prior to listening and simply experience it individually – the presence of dramaturgic information in the listening continuum is not compulsory.

Dramaturgy occupies a central role in the I/R method and this role is further contextualised in the following sections (1.2.3 - 1.2.8).

1.2.3 The shared listening experience.

“Electroacoustic music is by essence...contemplative, and expressive. It speaks to the imagination of everyone, it provides the means to transcend the ordinary without being an escape from it.” (Barrière, 1996: 17) RWE/A music has the capacity to be liberal in its use of materials and the meanings that can be expressed through the organisation of these materials in an artistic medium. That is, all sound is available, and all possible expressive connotations imaginable are at the disposal of the composer. The composer may be inspired

²⁵ See chapters 3 and 4.

to express an encounter with a real-world experience (a visual and/or aural encounter) through the E/A medium. The communication of this expression requires an audience to hear the work and interpret the intended communication; and the audience needs the composer to provide an engaging listening experience – it is a mutual system of communicative exchange. This is especially relevant with regards to RWE/A music and the extent to which such music provides for a shared listening experience situated in real-world sonic experience. It is acknowledged that there are composers who do not compose with any communicative intention in mind and who do not compose for an intended audience other than themselves. Such works are not being addressed by this particular phase of the I/R project.

The act of composition in RWE/A music often involves listening to the acoustic environment and responding to it as a being within that environment. Hildegard Westerkamp's compositional philosophy highlights this concept of establishing a deeper level of shared experience, as Andra McCartney observes, "When I think of Westerkamp's soundscape²⁶ work, I hear conversations with active sound environments in specific places in which she is always aware of her own position as recordist." (McCartney, 2000a: ch.1) Westerkamp confirms this idea.

The fact is that the recordist/composer's knowledge of a place extends beyond the recorded soundscape to the smells, the air, the temperature, the time of day...and significantly, the changes that occur when a microphone enters a space. This extended knowledge is bound to influence the piece in some way, as well as intensify the relationship between composer and place, between composer and composition. (Westerkamp, 2002: 55)

I would add that it also offers the potential to intensify the communicative relationship between composer and listener. Establishing the feeling of a human presence within the sounding content of the soundscape translates very well to the listening experience.

²⁶ In the soundscape work, "[e]nvironmental sound recordings form both the source material and also inform the work at all of its structural levels in the sense that the original context and associations of the material play a significant role in its creation and reception." (Truax, 2000a: 124)

Westerkamp is directing the microphone towards sound that she herself finds interesting in the context of the recording environment. This feeling of the work being that of a real, human experience within a surrounding, encompassing soundscape allows for the listener to, in some sense assume the place of the recordist/composer within the work. This establishes a human connection with the sounding content rather than perceiving the sounding content as either a series of sound effects, or an abstract, flat, two dimensional screen of projected, sculptured sound. The sound environment becomes a natural immersive environment that does not exclude a human presence. For example, in one of the works chosen as test material *ABZ/A*, many inexperienced listeners interpreted the work to be (in part) about nostalgia, that the composer was using sounds that were related to his memories of childhood. These interpretations were noted as being extremely resonant with the childhood memories of the listeners themselves. There was an affinity between what the listeners felt the composer was communicating and what they themselves felt. Ironically perhaps, this nostalgia interpretation was a misinterpretation in terms of what the composer was actually intending to communicate. In this sense the listener is not assuming the role of the composer from a *structurally* poietic²⁷ perspective, as the composer in the studio, listening to the work by way of attempting to unravel the composed, sculptured, dynamic morphology of the work; but as an interpretative participant in the overall soundscape. The listener is listening to the work in a holistic sense, as a particular immersive, real-world and/or surreal world environment. Such a particular listening experience is most pertinent to the inexperienced listener who will not be in possession of technically specific compositional knowledge that would enable her/him to assume the role of the composer in the studio environment, but who can more readily assume the role of a participant in a real-world sonic environment.

The interpretation of this environment during composition is of course influenced by the composer's desire to incorporate elements of that sounding world into an expressive artefact through the application of, at times, quite complex and technically specialised practices. But nevertheless, the experience of the real-world sound has a resonance that in

²⁷ A production point-of-view (Delalande, 1998: 15). See chapter 1.2.4 and also (Nattiez, 1990: 12-13).

its meaningful manifestation cannot escape its natural resonances in the mind of the listener, unless of course the listener has developed the skill of acousmatic listening to such a degree where repeated listening is not required to lose the source reference of the sound.

As the composer composes the work s/he is in a dynamic listening mode, listening to the work as it develops over time, creating a communicative real-world narrative that s/he can understand as a listener, albeit one who is functioning within a particular communicative system relative to the genre. The listener re-composes the work through his/her own system of codification, yet has the potential to share similar listening experiences to those of the composer. The meaningful relationship between the sounds used in the composition and the composer is a meaningful relationship being communicated to the audience (this is only pertinent to works where there is an intention to communicate a particular meaning or meanings). “Any noise, when two [or more] people decide to invest their imagination and their desire in it, becomes a potential relationship [...]” (Attali, 1985: 143) But in this situation there is also introduced an unavoidable subjective element based on the lack of a definitive code (context) through which to accurately guarantee communication of the intended meanings of the work²⁸ – the communicative relationship remains *potential* in terms of the accurate transmission of compositional intent.

The issues of context and subjectivity in the shared listening experience.

An investigation based on the presence of a potential shared listening experience, the relationship between composer intention and listener response involves considering the effect of context. Communicational meaning can only be assessed when a message is understood within its context and the context in which the communication occurs must be included within any media analysis. (Truax, 2001: 177; Shepherd, 1992) The investigation of RWE/A music as a communicative art work must take into account the context into which the work is placed. For the intended meaning of the work to be received and understood, for the listener to be able to produce a reasonable interpretation that is relative to the communicative intentions of the composer, requires that the listener understands the

²⁸ There may be one or several intended meanings operating within a single work.

communicative code of the particular musical genre. For example, “Australian Aboriginal dot paintings might resemble modern art canvases from Paris and New York, but the artists’ aims and intentions...[may be] very different.” (Freeland, 2001: 149) Dramaturgic information in this instance would offer an important context concerning the meanings of the work, especially the communication of its intended meanings; the work may be misunderstood, misinterpreted because of its environmental context, it being situated in a modern art context. If one is attempting to disseminate RWE/A works to new audiences, at the same time seeking to maintain the potential for a reasonably accurate shared communicative experience to take place (the meeting of communicative intention and listener interpretation) in particular if misinterpretation of the communicative intent is leading to disengagement and an unsatisfying listening experience, one may need to provide a context through which the listener may come some way towards understanding the code of communication required to interpret the work as the composer intends. However, it should be noted that misinterpretation of the intended communicative meanings of the work does not necessarily prevent the listener from having an engaging listening experience and appreciating the work through their own personal meaning-based interpretation.

1.2.4 The communicative continuum.

“The *essence* of a musical work is at once its genesis [how it came to be], its organisation [physical structure] and the way it is perceived [listening experience].” (Nattiez, 1990: ix). These three categories (composition, structure, perception) operate within Nattiez’s total musical fact, which concerns all of the facets that are related to the production and reception of the musical work.

1) The act of composition = *The Poietic process*.

2) The act of interpretation and perception = *The [A]esthetic process*.²⁹

²⁹ Throughout this thesis the term, ‘esthesis’ will be presented with a British spelling ‘aesthetic’, except when quoting Nattiez directly.

3) The physical structure of the work = *The Immanent or Neutral level*.³⁰

These three areas comprising the total musical fact afford three families of analysis:

1) Poietic analysis – revealing the production techniques (the poietic process).

The poietic approach is focussed on deciphering, describing or reconstituting a work's process of creation. (Ibid.: 11-12) The inquirer, using the poietic approach is attempting to discover the physical compositional actions of the composer in the production of the work, deducing production strategies from the material object, often based on their own knowledge of particular compositional practices. (Delalande, 1998: 16). In this dimension the investigative focus tends to be on the inner, physical sounding structures of the work – how they have been organised.

2) Aesthetic analysis – analysing listener responses to the work (the aesthetic process).

The aesthetic approach investigates the listening experience, moving away from analysis of the work itself to analysis of what the listener actually hears and how the listener responds to what s/he is hearing.

3) Analysis of the neutral level – analysing the physical trace of the work.

Analysis of the neutral level involves describing the immanent and recurrent properties of a work independently of their means of production and their interpreted meanings. (Ibid.: 12 and 15) E.g., producing a physical, visual representation of the sounding content of the work – a score of some kind. This can obviously take the form of a traditional notation for note-based works, or as is the case in E/A art music that does not contain elements that can be traditionally notated, it can take the form of a sonogram. For examples of approaches to

³⁰ It should be noted that these three terms (poietic, neutral and esthetic) are not solely Nattiez's but were borrowed and adapted from (Gilson, 1963); (Molino, 1984); (Valery, 1945).

sonogram analysis see (Zattra, 2004) for graphical scores³¹ see (Lewis, 1998); (Couprie, 2004); (Donin, 2004). Neutral level analysis is meant to be a neutrally objective description of the temporal, linear progression of the various sounding elements within the work.

Although presented fundamentally in relation to traditional western note-based music, some of Nattiez's concepts and terminology can be transferred without significant reinterpretation or alteration to E/A art music research. Indeed, the 'communicative continuum' being investigated by the I/R project encompasses elements of the work's production that have contributed to the communicative intention of the work and elements of the listening experience involved in the interpretation of the work.³²

*Nattiez's analytical schemas.*³³

Nattiez further articulates his three families of analysis through a series of six schemas – possible combinations of the three analytical families. (Nattiez, 1990: 140)

³¹ "Although scores for acousmatic pieces exist in a variety of forms there is no form of notation, either prescriptive or descriptive, that approaches the ubiquity and acceptance of staff notation." (Windsor, 1995: ch 1.2.1)

³² The neutral level, the production and use of a score is not relevant to the investigative goals of the I/R project in the first instance.

³³ Although the I/R project is not concerned with analysis of the RWE/A work itself. The generalisation of analytical methods of inquiry established by Nattiez in his schema provides a template through which the I/R project's method of inquiry can be contextualised.

FIGURE 1

NATTIEZ’S ANALYTICAL SCHEMAS.

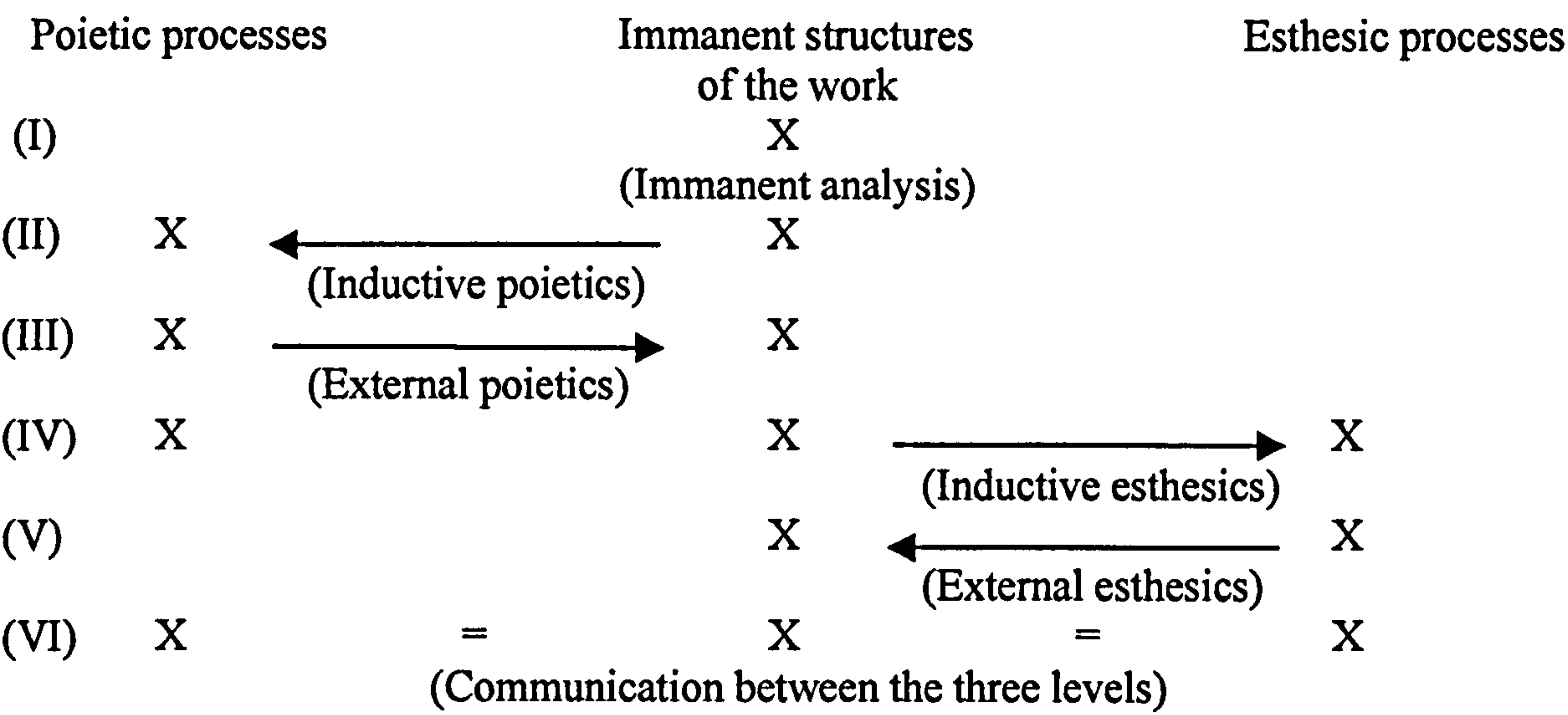


Figure 1

Schema (I) Immanent analysis: The production of a score or descriptive text based on an analysis of the physical trace of the work. In E/A art music such neutral analysis is usually undertaken through the use of the sonogram/spectrograph.

Schema (II) Inductive poietics: Analysis of the physical trace of the work through which compositional processes and techniques are revealed.

Schema (III) External poietics: In this case the analysis proceeds from some form of written information supplied by the composer, such as track notes, sketches and outlines concerning the compositional process. The goal is to understand and describe the compositional procedure through the context of the written information.

Schema (IV) Inductive esthetics: Nattiez also calls this approach “perceptive introspection”. Analysts analyse their own listening experience. The analysts “set themselves up as the collective consciousness of listeners and decree, “that this is what one hears”.” (Ibid.: 142)

Schema (V) External esthetics: Gathering the listening responses of external listeners to understand how the work has been perceived.

Schema (VI): Incorporates all of the above approaches, this is Nattiez’s Semiological Tripartation³⁴ (three sign producing processes), the means through which he believes the total musical fact can be investigated.³⁵

1.2.5 Content vs context – introducing dramaturgic aesthetics

The I/R project proposes a seventh schema (representing a potential methodological model through which the I/R project may operate).

FIGURE 2

A SEVENTH SCHEMA – DRAMATURGIC AESTHETICS.

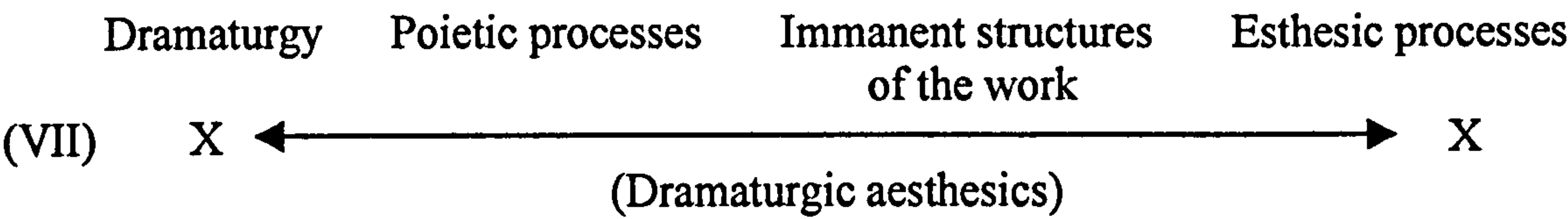


Figure 2

In Figure 2, ‘dramaturgy’ has been included as a separate element in the total musical fact as it is not based on the process of construction. For example, in Trevor Wishart’s work *Red Bird* he notes how the transformation of the syllable ‘lisss’ (taken from the vocal phrase ‘listen to reason’) into birdsong may metaphorically indicate the voice taking flight. (Wishart, 1996: 166) A dramaturgic approach concerns such information, but more importantly, it also concerns why this ‘voice taking flight’ metaphor was created and its relationship to the communicative context of the work as a whole. In contrast, the poietic approach focuses on identifying this transformation and how this transformation was produced, what the composer did to create this transformation in terms of the physical manipulation of the sounds.

³⁴ See (Nattiez, 1990: 10-16)
³⁵ Throughout this thesis the terms categorised in Nattiez’s six schemas will be used where appropriate.

Based on this seventh schema (figure 2), the investigative methodology of the I/R project has thus been termed dramaturgic aesthetics – the investigation of the relationship between composer intention (the dramaturgic continuum) and listener response (the aesthetic continuum). The dramaturgic continuum + The aesthetic continuum = The communicative continuum.

1.2.6 The dramaturgic continuum – composer intention.

The I/R project's methodology seeks to develop an approach that may offer an insight into composition beyond the technical, physical means of production, turning compositional intention into a somewhat self-reflective exercise for participating composers. It seeks a direct and deeper engagement with elements of composer intention, encompassing the genesis of the E/A art work – the very seed of its beginning. But “[w]hat is a beginning? What must one do in order to begin?” (Said, 1975: xi)

Contemplating the function of intention concerns thinking of it not only in terms of a continuum through which intention evolves, but also intention as a beginning. Intentions are a conscious precursor to a conscious action of some kind – we intend to do a particular thing. We are all participants in a continuous conception and realisation of intent, “when a [person] says ‘I am going to do such-and-such’, we should say that this was an expression of intention” (Anscombe, 1963: 1) an expression of “a prediction...a description of something future.” (Ibid: 5) Intention sets in motion a system of reasoning whereby a planned course of action is established, a sequence of events is put in place which when followed will (it is reasoned) lead to, at some point in the future, the realisation of the fundamental intention. This realisation could be moments, days or even a lifetime in the future and as such may require a multitude of sub-actions in order to achieve it. The fundamental intention is therefore a notion that includes everything that later develops out of it. (Said, 1975: 12) For example, if I intend to attend a particular concert my conscious actions from the moment of intent onwards will be controlled by my desire to realise this intention. But not merely in terms of realising the fundamental goal which is ‘to attend a concert’, as out of this fundamental intention will develop interrelated sub-actions brought into being by certain variables, some expected, some predictable, yet others not so. These

variables are involved in the realisation of the fundamental intent. The sub-actions are just as important as the fundamental intent ('attend a concert') if this intent is to be realised. The intention to attend this particular concert will also require that I arrive at the venue on the correct date and at a particular time. This time element in conjunction with the location of the concert venue, in conjunction with the distance from my current location to the location of the venue will result in having to leave myself enough time to travel to the venue.

In this example one can see how the intention to attend a concert can be labelled as the seed of beginning out of which develops a complex series of related actions (although sometimes not directly related to the fundamental intention) leading to the realisation of the intention. So intention is a fundamental and perhaps complex aspect in all of our everyday activities; and in principle, the E/A art music compositional process in relation to intention resembles the general model described above.

Intention in an electroacoustic art music context.

In E/A art music composition a composer intends to produce an object (*fundamental intention*)³⁶ which leads to deliberations on what must be done to produce the object (*primary action variables*); such deliberations result in operations on external materials (*action*) which may introduce other unanticipated variables (*secondary action variables*); which eventually culminates in the production of the work (*realisation of intention*). (Nattiez, 1990: 13) The presence of action variables, both primary and secondary, results in fundamental intentions that are not always realised, but that shift and change during the compositional continuum, the composer often remains open to influences that may alter their compositional intentions at unforeseen moments.

Moreover, the stimulus which instigates the intention to compose a work must have been responded to in order to instigate the conscious intention. As such, the initial process in the genesis of the work is a consequence of response. "A beginning is something one

³⁶ Italicised terms are mine.

does and is something one thinks about. It is both a creative and critical activity.” (Said, 1975: xi).

Analysis of fifteen composer intention questionnaires, those that were initially submitted to accompany compositions submitted as potential test material, reveals several motivational and inspirational factors that stimulated the intention to compose.³⁷

1) Sensory inspiration - where sensory input inspires the compositional act.

This can take the form of:

a) Aural - The composer hears a sound or sounds and is inspired to compose something based on these sounds. For example, “I was originally inspired by the sounds I heard in my kitchen”.

b) Visual – the composer is inspired by visually perceived images and real-world experiences. For example, “A specific memory of past experiences was inspired from being in a classroom [one] afternoon when I could see student’s forgotten bags and jumpers”.

2) Conceptual inspiration – The composer is inspired to compose based on a verbal idea (concept). This conceptual idea leads the composer to seek out material that can be used to realise the communicative concept. For example, “The use of sounds in recognisable and unrecognisable contexts, and the interplay between these two contexts, is fundamental to my way of composing. I had begun exploring these techniques in previous pieces. [This work] is the continuation of the research”.

3) A commissioned work, or in the case of student composers, a set composition assignment. For example, “This piece was commissioned as a sound/image collaboration...[to compose a] piece about ‘home’” and “I was set a project the purpose of which was to make a piece of music with a specific geographical or cultural context”.

³⁷ All quoted examples are the composers’ words.

4) Intransitive motivation (Said, 1975: 5) – An instantaneous decision to compose *something*. Such a decision may then instigate a search for inspiration. For example, “I had the opportunity to compose a piece in the studio...At the time of composition I wasn’t trying to convey anything in particular – I was just trying to compose something.”

The three works selected as test material fall into the following inspiration/motivation categories:

ABZ/A was a commissioned work, “the piece is one of four commissioned works”, but was also conceptually lead; “[concerning] a composers response to a sense of place...what this place ‘means’ to a particular composer.”

Deep Pockets was an aurally inspired work. “I play pool often and I think the sounds created are just great, so while I was playing pool one night I decided to compose a ‘study’ so to speak”.

Nocturne was also an aurally inspired work but one that was based on the ‘by-products’ of other compositions that the composer was working on at the time.

Inspiration led intention is often an imaginary state created by the response to certain stimuli that in consequence creates the intention to act upon this inspiration. For example, a composer imagines what s/he might be able to do compositionally based on the inspiration and so responds to this imaginary potential by instigating the actions that will lead to the realisation of this imaginary potential. When this initial intention, *to compose*, is realised, the compositional process with regards to the organisation of sound then begins. At this point the composer collects, creates and/or organises sounds based on this initial intention. As this process progresses the composer again engages the response process in that his/her practical compositional intentions will perhaps change or be influenced as sound manipulation, experimentation, imaginative and critical reflection inspires new and evolves existing ideas; this may even alter the initial intention. “[T]he electroacoustic composer...gets immediate aural feedback on his work...one’s “technique” and “sound”

are constantly reformulated as a result of what one hears coming out of one's "instrument". (Alvarez, 1989: 204)

Some E/A art music research seeks to reveal or de-compose the poietic process, revealing a composer's compositional processes either through the use of a neutral representation of the work's structure (the sonogram), and/or through an inductive aesthetic approach based on learned, specialised knowledge of the compositional act. Such a model is often focussed on the (action) area in the above model, seeking to deduce the operations on external materials. This model situates the beginning of the compositional process at the moment when the intention to compose was realised, the moment that the physical production of an organised sounding content began. But what was it that initiated the intention? Why was the decision to compose the object made? How did this intention evolve during the compositional process? How is this manifested in the communicative content of the work (if at all) and to what extent might such information when offered to the listener be helpful in terms of access and appreciation? In his development of an aesthetic mapping procedure, Lars-Gunnar Bodin suggests that such extra-musical phenomena influencing the communicative intentions of the composer could be based on political, religious, and philosophical ideologies, social contexts, symbolism, metaphor and that an aesthetic mapping of the E/A art work should investigate how these extra-musical ideas influenced the composer and his/her composing. (Bodin, 1996: 225) Andra McCartney's research delves into such areas of composer intention, including biographical information in some depth, indicating how such information may be useful during the listening experience.³⁸

Rather than subject each composer to an in-depth interrogation regarding their political, philosophical, religious ideologies, etc. and the microscopically detailed dramaturgy concerning every development along the composition continuum, the I/R project's methodology will be designed to gather such information with respects to how this information has informed the meaning content of the work (the communicative intent). This approach solicits dramaturgic information that the composer feels is pertinent to the

³⁸ See chapter 1.3.4 and (McCartney, 1995; 1996; 1997; 2000a; 2000b)

meanings and communicative intentions composed into the work. The goal of the I/R project in this instance is to establish a methodology whereby the pertinent dramaturgic elements of the compositional continuum are presented to the listener and the effects of this information on the listening experience are monitored.

1.2.7 The aesthetic continuum – listener response in electroacoustic art music that contains real-world sound references.

The apprehension of real-world sounds is continuously referring to source and causal identification. Hearing any sound from the real world naturally stimulates the mind to interpret the sound in relation to two factors; its source, and as a consequence of a physical process applied to the source to produce the sound. For example, hearing the sound of a drum – the drum is the source of the sound, the act of hitting the drum is the cause. (ten Hoopen, 1994: 63)

The identification of this acoustic source/cause switches the listener's attention from a focussed, conscious analysis of the acoustic properties of the sound itself towards an inner visualisation (drum image/hitting drum image) of the sound's source/cause. Such a natural phenomenon may result in the interpretative and meaningful organisation of the occurrence of such real-world sounds (when presented in the E/A art work) to be based on the visualised source/cause of the sounds and the potential relationships between different source/cause visualisations represented by other juxtaposed real-world sounds within the E/A art work, rather than the interpretation being based solely on the dynamic relationship created between the physical acoustic properties of such real-world sounds.

In RWE/A works there can be a dynamic communicative relationship created by the intrinsic and extrinsic positioning of the listener's interpretative process.³⁹ A composer's communicative intentions are in part intrinsically organised, in that the sounds contained within the work can be interpreted in relation to each other and through the context of the work's self-contained acoustic gestalt, there is a communicative potential fixed inside the

³⁹ Stéphane Roy discusses ideas related to this process in his article, *Form and referential citation in a work by Francis Dhomont*, the work in question being *Points de fuite*. See (Roy, 1996).

work in terms of its physical being, its inner relationships. But once the process of sound recognition is engaged, the listener naturally moves into an extrinsic domain, outside of the composition; creating a dynamic movement between the intrinsic and extrinsic domains which may contribute to the potential interpreted meanings of the work. This also creates a problem, in that the extrinsic world of sound has its own set of relationships (subjectively determined by the listeners interpretation of the nature of such relationships) that may not be present in the intended intrinsic relationships, those that establish the communicative intention of the work. François Bayle has termed this area of listener subjectivity ‘perception egocentrique’⁴⁰ which depends on the listeners way of focussing their interpretative attention on the sounding content as part of an overall gestalt. (Proy, 2002: 17; Bayle, 1993) This situation raises an interesting question regarding the listening experience, one that is to be investigated by the I/R project. To what extent does the listener involve or bring into the composition the extrinsic relationships suggested by the recognisable real-world sounds and how does this impinge on and relate to the communicative relationships functioning within the boundaries of the work itself? McCartney has observed a similar operation in terms of the relationship between composer intention and listener response.

[W]hen we listen to a processed realworld sound, and recognize it as such, we regard the composer as ‘doing’ something to familiar material. Processing becomes an activity that guides, and changes, our previous understanding of the source; it offers an interpretation...[I]n offering a new interpretation of something that, nevertheless, remains “known” from reality, realworld music invites us to deploy, and develop, “ordinary” listening skills; it encourages us to feel that we are involved, and participating, in the creation of a story about real life. (McCartney, 2000a: ch.5)

A similar process operating during the listening experience has been discussed by Luke Windsor in relation to the psychological study of perception conducted by James Gibson.⁴¹

⁴⁰ Bayle also defines a second term relating to acoustic perception, ‘perception allocentrique’ wherein each sound is regarded as its own communicative entity, not as a part of a unified gestalt. (See Proy, 2002: 17; Bayle, 1993) Smalley’s terms, ‘autocentric’ and ‘allocentric’ borrowed from Schachtel operate in a similar manner to Bayle’s terms. (See Smalley, 1992: 518-519)

⁴¹ See (Gibson, 1966).

Perception is the result of a dynamic relationship between an organism (the listener) and the environment, in the case of RWE/A works this can include the intrinsic environment of the work, the environmental context in which the work is placed as a communicative artefact⁴² and the natural environmental context that the recognisable sounds within the work are interpreted to be a part of. The dynamic relationship between the perceiving organism and the environmental contexts provides the grounds for the perception of meaning. (Windsor, 2000: 11) The subjectivity inherent within this particular perceptual model of meaning-led interpretation is based on what Gibson terms ‘affordances’. Such affordances are “fluid relative to individual perceptual development” i.e., subjectively determined through the lived experiences of the perceiving organism. (Gibson, 1979: 129) For example, the recognised sound of a dog barking in a RWE/A work affords different meanings based on lived experiences. A person who is uncomfortable around dogs may experience a fear-based emotional response and as such the meaning of the sound becomes one related to concepts of fear; whereas a dog lover may experience an endearing emotion and so the meaning of the sound becomes contextualised through this particular affordance. The objectivity of the meaning content cannot be definitively explained, as the particularity of the affordance-based relationship is subjectively individual. (Windsor, 2000: 11) This subjectivity of affordances must be taken into account during the analysis and interpretation of listener response data solicited during the data gathering phase of the project and with respect to the dramaturgic information.

The listener and the beginning of the aesthetic continuum.

Studies of the aesthetic processes in E/A art music tend to situate the beginning of the listening experience at the moment when the listener hears the sounding content of the work. Yet, similar to the location of a beginning in the compositional continuum, the beginning of the *communicative* experience for the audience of the E/A art work – the beginning of the aesthetic continuum – may not commence with the first *sounding* moment of the work. The initial moment of response can begin with the listener’s reading and

⁴² See (Truax, 2001: 11)

meaningful interpretation of the work's title and/or its track notes. This (pre-listening) contextual information may well be useful in terms of assisting the listener in identifying the pertinent aspects of the sounding content in relation to the communicative intention of the work. Pre-listening contextual information obviously becomes most pertinent when the listening experience begins, but a pre-contextualised listening experience may well be quite different than that when no context has been given prior to listening. This may be of particular relevance in terms of a composer's inability to definitively influence how a listener experiences and interprets a work based on sounding content alone. This situation is a further consequence of subjective affordances.

Objects and events are related to a perceiving organism by structured information, and they 'afford' certain possibilities for action relative to an organism...[F]or a surfer, certain patterns of waves afford surfing, whilst to a non-surfer they might afford drowning...The affordance is a relationship between a particular environmental structure and a particular organisms needs and capacities. (Ibid.)⁴³

Composers are not usually in possession of the knowledge regarding the life experiences and thus the affordances of their potential audience. Therefore they cannot definitively compose the work to communicate everything that they intend it to communicate. However, a composer can introduce certain extra-musical, verbal elements through which the communicative intention of the work can be hinted at, if not completely described; a) the title of the work; and b) the track notes. The presence of a title and track notes relates to the SHF concept in terms of the potential to investigate the extent to which the listening experience is influenced by the title and the track notes and so to what extent such information gives the listener something to hold on to prior to engaging with the work.

As discovered during listener testing, track notes do not always offer enough information regarding the communicative intention of the work, or are written in a language that some listeners, particularly and most relevantly in this case, inexperienced listeners have difficulty understanding. As Rosemary Mountain notes when discussing marketing

⁴³ See also (Windsor, 1994)

strategies for E/A and computer music⁴⁴, “It...seems to me that those who write programme notes⁴⁵ could often make them more provocative and insightful, without jeopardising our status as non-verbal artists.” (Mountain, 2004a: 313) In some cases the track note information is written in a semi-poetic style or in an academic vernacular and as such requires an initial interpretation of the meanings of the explanatory text itself prior to the engagement with the work. Therefore the introductory text of the work can be unsatisfactory in terms of presenting a ‘gentle’ way into the communicative content of the work for an inexperienced listener or indeed a listener not particularly skilled in the understanding of poetic texts or in possession of the vocabulary of academia or the professional E/A art music community. To address this issue the I/R methodology solicits information concerning *how* the title and track notes relate to the content of the work, in terms of its communicative aspects, from the perspective of both the compositional continuum and the aesthetic continuum.

1.2.8 ‘Meaning’ in electroacoustic art music that contains real-world sound references.

“The beginning is the first point...of an accomplishment or process that has duration and meaning. *The beginning, then, is the first step in the intentional production of meaning.*”⁴⁶ (Said: 5)

Musicology has frequently avoided questions of affect and meaning altogether...when, however, it has considered questions of affect and meaning – either implicitly or explicitly – it has tended to do so in a manner which isolates musical processes from their embeddedness in...the everyday lives of people. (Shepherd & Wicke, 1997: 7)

A definition of meaning that is pertinent to the I/R project has been constructed through the use of two existing definitions of meaning in music. “When [a composer] invests an aspect of their inner life in the medium of music...they are probably investing the medium with a

⁴⁴ See (Mountain, 2004a: 304-313)

⁴⁵ Although the term ‘programme notes’ is often used in reference to the written information provided in a concert performance, the use of the term in this instance includes CD track notes.

⁴⁶ Said’s emphasis.

meaning which will resonate with the logics of broader social and cultural contexts.” (Shepherd, 1992: 146) The musical object “takes on meaning for an individual apprehending that object, as soon as that individual places the object in relation to areas of his lived experience [...]” (Nattiez, 1990: 9) Meaning exists in two domains – the lived experiences of the composer and those of the listener. These experiences are a part of the context through which the meanings of the work are constructed and interpreted.

The operation of meanings in RWE/A music consists of::

- a) The production of a potential shared communicative experience related to the inner lived experiences of the composer which may be influenced by the imagined potential that such meaningful experiences may have for the intended audience.
- b) The representation of such meanings in the sounding content of the work which may be related to the approaches that the composer imagines the intended audience will use to discover and interpret such meanings.
- c) The actual approaches through which such meanings are searched for, interpreted and constructed by the listener in the context of their own lived experiences. These may be influenced by the listener’s imagined resonance that such material had for the composer, further contextualised by the title of the work and the dramaturgic information supplied with the work. That is if such elements are present and are used by the composer and the listener as a context through which to describe/interpret the work as a communicative artefact with a particular meaning or meanings.

This system is rather complex, involving intention, assumption, speculation, imagination and interpretation – all of which are further subject to the influences of individual and personal subjectivity. Indeed, a definitive and unwavering objectivity cannot be the goal of an investigation in this area.

The domain of literary criticism, particularly that regarding the critical re-integration of the reading audience into the communicative function of the text, can offer interesting

insights into the author – text – reader system of communication. Regarding the notion of the imaginary author and the imaginary reader, Wayne Booth has defined two terms; the implied author (composer) and the implied reader (listener). (Suleiman, 1980: 8; Booth, 1961: 138) What is important in this case is that the implied author (composer) and implied reader (listener) are themselves *interpretative constructs* and, as such, participate in the circularity of all interpretation...[the reader] constructs an imaginary image of an author implied through their interpretation of the work and may also assume the interpretative identity of an implied reader that they believe the author is intending their work towards. (Suleiman, 1980: 11). To this one could add the terms inscribed author and inscribed reader, in that from the compositional (authorial) side of the model, an intended audience may be inscribed in the work and an intended composer (author) identity may also be inscribed in the work. (Ibid.: 12)

It should be noted that I am not seeking to situate the ‘true’ meanings of the work as either those created by those investing meaning in the work during its composition or by those apprehending meanings through their experience of and interpretation of the work. I am taking a pluralistic view that both areas comprising the communicative continuum are of equal relevance and intend to construct an investigative methodology from this pluralistic viewpoint, i.e., Intention + Reception = The Communicative Continuum (through which a meaningful communication is facilitated).

The means through which to investigate such a communication will involve the verbal meanings of the work.

Verbal meanings.

The meaning content of RWE/A works can be verbalised. The presence of verbal meanings in such music is however, problematic in that meaning can be assigned some verbal translation but it should not be limited to verbal translations. (Nattiez, 1990: 9). For example; in the composition *ABZ/A*, a work used as a test composition in the I/R project, the real-world sounds used as principal referential material by the composer in the production of the work are described as follows:

- Union Street on a weekday afternoon (main street in Aberdeen) from various listening vantage points;
- Swings in playground at Pocra Quay, Footdee (old fishing quarter of Aberdeen);
- Ambience of Aberdeen Docks from various vantage points;
- Seascapes from Aberdeen, many and various;
- Seagulls (on shore and inland);
- Cars moving over cobbled streets;
- Button accordionist playing sea shanties outside busy shopping centre;
- Pelican crossing warning signals;
- Aberdeen airport – many recordings (busy concourse, helicopters setting off for oil rigs, machines.)

Identification of such sounds in the work by the listener may be purely image-based. For example, hearing the sound of seagulls may invoke the image of a seaside scene, hearing the sound of cars may then introduce a further visual element into the scene. The incorporation of an accordionist again modifies the visual scene and so on; such an approach does not require a verbal meaning-based interpretation of the sounding content – the interpretation of the sounding content remains purely image based.⁴⁷ It is when the listener reflects on the sounds in terms of what they might mean that introduces the verbal meaning, as this reflection will take the form of language, an inner verbal dialogue. The same is the case for compositional intention; the meaning content of the work may not have been intended to only stimulate images in the mind of the listener but may have been intended to stimulate images in the mind of the listener that mean something when interpreted by way of a verbally described narrative. One aspect of the I/R project is to investigate the extent to which the meaning-based content of the work is being communicated, this approach will include both image-based and verbal-based communicative intentions and listener interpretations. The only way to investigate this is through experiences that are articulated through language.

It is the actual study of the communication of meaning that cannot escape its verbal manifestation, in that to investigate meaning in any format requires the composers and listeners to articulate the meanings of the work as they experience it. “If you inquire into a

⁴⁷ This formation of an image in the mind of the listener based on an acoustic experience has been termed the ‘sound image’, I-son or image du son (Bayle, 1993 and 1989). It has also been termed ‘sound event’ a term introduced by Schafer (1977), whereby the sound is interpreted in its environmental, real-world context. (Proy, 2002: 17)

listener's response to a sound or musical work, trying to elucidate what it is that attracts or repels, it is impossible to avoid extrinsic references, such is the nature of verbal communication." (Smalley, 1992: 550) This has implications in terms of the methodology used to solicit, analyse and interpret information regarding the communication of meaning both in terms of a composer's meaning-based communicative intentions and listeners' responses regarding the reception of these meaning-based communicative intentions. These implications are discussed and dealt with in chapter 2.

1.3 Theoretical and empirical approaches to electroacoustic art music research.

Investigating existing intention and reception research reveals a series of theoretical articles and empirical studies that can be categorised in four areas.⁴⁸ Interestingly, some of these articles are openly critical and at times mildly polemical; as such demonstrating an energetic desire to see a broadening of research in the areas of intention and reception.

1) Articles that address E/A art music research, including, but not limited to, a re-evaluation of existing practices (both analytical and philosophical) indicating the limitations of such practices and suggesting new or revised approaches. This includes particular articles that address issues concerning composer intention, listener response, interpretation and perception. See (Bodin, 1997); (Clozier, 1997); (Camilleri & Smalley, 1998); (Emmerson, 2000b); (Field, 2000); (Landy, 1994a, 1999); (Mountain, 2004); (Nattiez, 1990); (Norris, 1999); (Sani, 1997); (Tanzi, 2004); (ten Hoopen, 1994); (Truax, 2000a and 2001); (Waters, 1994); (Windsor, 1994 and 2000).

2) Articles that include a call for a greater focus on the potential for disseminating E/A art music to a broader audience. See (Barrière, 1996); (Berenguer, 1996); (Chadabe, 2004, 2004a); (Clozier, 1996); (Dodge, 1996); (Emmerson, 1996); (Hanson, 1996); (Landy, 1990, 1991, 1994a); (Mountain, 2004a); (Obst, 1996); (Pennycook, 1992); (Waters, 2000).

⁴⁸ Some of the articles/studies represented here have been categorised in more than one category.

3) Articles that address the general issues in categories one and two, but that also suggest methodological formats through which to investigate such issues. See (Landy, 2001); (Landy & Weale 2003); (Windsor, 1995).

4) Empirical research projects that have put such methodologies into practice, reporting on their findings; and articles categorising listening behaviour and listening strategies.

a) Composer intention studies – See (Kolber, 2002); (McCartney, 1995, 1996, 1997, 2000a, 2000b).

b) Listener response studies – See (Bridger, 1989); (Chion, 1994); (Delalande, 1998); (Deliege, 1989); (Landy, 1994b); (Smalley, 1992).

c) I/R studies – (McCartney, 2000a).

Research studies and articles regarding category 4b above can be subdivided into two categories:

i) Approaches that concentrate on defining a general typology of listening behaviours. E.g., (Bayle, 1989, 1993); (Chion, 1994); (Delalande, 1998); (Smalley, 1992).

ii) Approaches that identify the pertinent sounding characteristics of E/A art music works, as evidenced through investigation of the listening experience. E.g., (Bridger, 1989); (Landy, 1994b); (McCartney, 2000a).

It is clear from the number of articles in categories 1, 2 and 3 that such predominantly aesthetic approaches to E/A art music research are deemed to be valuable in terms of expanding the E/A art music knowledge base. Many articles have looked towards incorporating a greater degree of listener response-based inquiry in E/A art music research, fewer have looked towards composer intention and the communicative relationship between intention and reception, and significantly less have been concerned with empirically addressing issues of access, appreciation and dissemination. The majority of articles in these areas are primarily theoretical, demonstrating that there exists a *potential* for contributing new and relevant knowledge in the field of E/A art music through the application of empirical, investigative methodologies grounded in the investigation of

compositional intention and the listening experience. Many of the articles represented through this thesis offer a wealth of theoretical reasoning as to why such research needs to be considered. In some cases these articles propose a particular methodology that could be used to investigate listener responses. However, empirical approaches to this wealth of theory do not reflect the extent of the theoretical attention and growing debate being given to such approaches. Nor do such empirical studies appear to be rising in any great numbers to the forefront of E/A art music research in terms of establishing a greater balance between established approaches (those that are predominantly poietic) and intention (dramaturgic) and reception-based (aesthetic) investigative approaches. The development of methodologies designed to address these calls and the establishing of a more inclusive information sharing and collaborative agenda between similar response-based studies has not received enough attention; indeed empirical research concerning intention and reception appears to be the exception rather than the rule. A consequence of this situation is that there has been very little feedback occurring through which to test if such new theories can fulfil their potential in terms of establishing workable research practices.

The following section includes a selection of pertinent empirical studies concerned with developing new and re-evaluating existing methodological practices, particularly those relevant to the areas of composer intention and listener response, those seeking to engage with the less-objective areas of the communicative continuum in E/A art music. These selected studies are to provide a general overview of the types of approaches taken towards establishing new research practices from both theoretical and pragmatic perspectives.

Each study will be presented in terms of its investigative context, methodology and the results of the investigation. My investigation of these studies will seek to demonstrate points of interest within current intention and reception methodologies and areas that require further investigation in order to strengthen the I/R case. Such information will be used as a foundation onto which development of the I/R project's theoretical concerns and empirical methodology will be based.

It should be noted that the areas identified as gaps in the theoretical and empirical studies investigated through this thesis are not being addressed as negative elements and/or failings of the selected studies. Indeed, some of the gaps identified through investigation of

these studies are not necessarily relative to the intended goals of the studies in the first instance. As Nattiez cautions, “[we should] thematicize the objectives of an analysis, especially when we are reading an already existing analysis. What does the author want to tell us about? This question, if kept in mind, will prevent us from reproaching the author for not having done what he or she did not want to do, or could not do.” (Nattiez, 1990: 135) Aesthetically-based investigative practices represent particular factors and areas within a developing field of E/A art music research. Each study contributes to the strengthening of electroacoustic E/A art music research in the less-examined areas through what it demonstrates and does not demonstrate. These gaps are what the I/R project seeks to discover within existing research as a whole (not in terms of the deficiencies in a particular individual study), so as to fill them and so establish a greater cohesion between existing studies and a stronger voice from within the growing fields of intention and reception-based E/A art music research.

1.3.1 Luke Windsor – introducing an etic approach to electroacoustic art music research.

Leigh Landy has noted that too few practitioners are looking into areas of E/A art music research from ‘outside’; this does not necessarily mean that the researcher must have no connections whatsoever with E/A art music, but that the disciplines brought to bear on the study of E/A art music do not themselves have to be fundamentally musicological. (Landy, 1999: 61) Such cross-disciplinary, methodological approaches towards the analysis of E/A art music have been suggested for some time now by other practitioners in the field. Barry Truax suggests that, “the employment of a “cross disciplinary research...involv[ing] the kind of breaking down of disciplinary barriers is absolutely necessary because the old traditional disciplines just cannot answer the kinds of questions we face today.” (Truax, 1991)

Luke Windsor, who despite having a musical background⁴⁹ presents a study of E/A art music that is grounded in principles of evolutionary biology, general perception and psychology. (Emmerson, 2000b: 3) Investigating perception itself, he attempts “to show

⁴⁹ BSc (Music), MA (Music Psychology), PhD (Music Analysis).

that a fuller understanding of *acousmatic music* can only be achieved through situating the genre within a wider perceptual context.” (Windsor, 1995: ch.1.1.0 unpaginated website dissertation text) He engages with social and ideological issues, suggesting that certain assumptions concerning acousmatic music should be challenged, especially in terms of the analytical methodology being employed to generate knowledge about the corpus. (Ibid.)

Rather than assuming that acousmatic music can be understood from the perspective of conventional music theory, or from existing theories of musical perception, this thesis will work upwards, so to speak, from the most general and primary aspects of auditory perception towards social, aesthetic and cultural issues. (Ibid.)

Windsor constructs a methodology that works from a foundation upwards, by way of engaging with primary aspects of auditory perception, rather than working from the top down through the deconstruction of complexity into fundamental objective units. What is interesting here is that the point of departure and subsequent theoretical conclusions of his study exist primarily outside of any particular musical paradigm, yet contribute to the musical paradigm (in this particular case that concerning E/A art music) “mak[ing] sense of such a music, not in terms of our musical perceptions, but in terms of perception as a whole.” (Ibid.: ch.1.0.) Windsor contends that acousmatic music presents the listener with sonic events that cannot always be categorised using traditional and familiar frames of *musical* reference. His thesis attempts to reconcile such departures from traditional musical reference with a frame of reference provided by our everyday experiences (the level of primary auditory perception mentioned above), concentrating on those events that do not conform to our musical expectations. (Ibid.) This notion is a fundamental and important point of departure in Windsor’s thesis in that it opens the way for all potential listeners to be included in aesthetically-based research into E/A art music. This is especially significant in terms of the I/R project’s investigative goals regarding broader accessibility and dissemination in RWE/A music.

As with Truax, “Believe it or not, the technical and stylistic questions which provoke the most debate in our community, and fill the texts and research papers, have no importance for our audience” (Truax, 1999: 148), Windsor appears to be locating a

potential audience for the E/A art work within the general population. To examine perception in “general and primary terms” is to examine perception as it exists in the general human subject, not only one whose perception of the E/A art work has been influenced by a specialised and/or academic focus – a composer-listener perspective. Windsor is suggesting a shift in the generation of knowledge, suggesting that the most pertinent contributions to new knowledge concerning E/A art music may now be found in the perceptions and experiences of the listeners (the audience); but not only the specialist listeners – the non-specialists as well.

Speaking of such an ‘outsider’ approach Windsor notes that:

[I]f such perceptually motivated descriptions are based upon general properties of human auditory perception they may avoid the tendency towards over-specialised and private languages of description that obscure and mystify practice rather than providing a broad basis for communication. (Windsor, 1995: ch.1.1.1)

Methodological points of interest.

Windsor proposes a method through which to investigate E/A art works in terms of the most general and primary aspects of auditory perception. (Windsor, 1995: ch.1.1.0)

If a level of auditory perception can be identified that provides a grounding for describing relevant attributes of electroacoustic sounds, both in isolation and combination, then the resulting descriptions might offer a relatively neutral method of discussing compositions and compositional practice quite unlike the highly personal discourses presently available [...] (Ibid.: ch.1.1.1)

He proposes an approach whereby the work is described and evaluated in terms of what all potential listeners will most likely perceive in the work; recognisable sounds and dynamic elements that are not solely identifiable through learned knowledge specific to E/A art music.

To demonstrate his theory Windsor puts his methodology into practice, analysing various E/A art works from a perception-based perspective. But when he speaks of the

listener in these analyses, one asks, who *is* this listener here? In this instance it is Windsor himself, evaluating the work in terms of his methodological model concerning elements within the various works that he theorises would be identified by all listeners (elements that are detectable to general auditory perception). The next step in this process would appear to be the involvement of actual listeners in the process of evaluating the function of general perception when experiencing acousmatic works.

Using an experimental, multi-participatory empirical investigation, collecting data from a range of listeners outside of the professional E/A art music community may well reveal a broader picture of the general auditory perceptions that are brought to bear on the works, elements that are being perceived in the works and how these are being responded to in terms of what they are interpreted to mean. Not only will there be a level of general auditory perception in operation (the identification of particular sounding elements) but there may also be a level of auditory interpretation (although perhaps not necessarily an overtly generalisable interpretative practice), whereby the perceived elements (being part of an assumed communicative artefact) are interpreted as meaningful elements, signifying extrinsic meanings that are verbally contextualised.

Windsor's research demonstrates *theoretically* that a potential exists for further investigation of E/A art music from the perspective of perception,

revealing the way in which a description of an acousmatic [E/A art music] piece might take the form not of an analysis of the piece itself, but of the relationships that can be formed between the different sources of information which can be brought to bear upon the interpretation of a particular listening context. (Ibid.: ch.3.3.1)

This suggests that the next logical step might be to introduce a measure of praxis through which Windsor's methodological approaches towards the study of primary perception in acousmatic music can be expanded to include the actual, first hand listening experiences of a cross-section of listeners. Investigating the current audience demography may reveal that general, primary auditory perceptive practice is not a predominant listening practice, as many E/A art music listeners are specialists in the field and so have developed particular electroacoustically relevant listening practices.

In short, Windsor's research sets out a methodological foundation that theoretically justifies the need for aesthetic research to receive more attention in order to address issues related to the perception of E/A art music that are not accessible through current analytical approaches. Experimental data gathered from an aesthetic study of non-electroacoustically experienced listeners would therefore help to expand Windsor's theories in terms of establishing a typology of general auditory perception behaviours through which other researchers without the relevant knowledge of precisely how general auditory perception functions can investigate listener responses to E/A art works. Such aesthetic studies aimed at identifying certain general perceptive practices of listeners have been conducted; a selection of which are discussed in the following sections.

1.3.2 Michael Bridger – '*An approach to the analysis of electroacoustic music derived from empirical investigation and critical methodologies of other disciplines.*'

Bridger's methodology uses listener response data to highlight significant features, what he terms "salient sounds" within a set of E/A art works selected as test material. He uses Roland Barthes' system of structural analysis as a template through which to uncover these predominant salient characteristics. Here one discovers an aesthetic investigation designed to reveal what specific characteristics of the E/A art work are being identified from a general perceptual perspective during the listening experience.

The particular approach used by Bridger is taken from Barthes's book *S/Z* which presents an analysis of Balzac's story, *Sarrasine*. The story's text is "fragmented...into a series of "lexias", or reading units⁵⁰ resulting in the creation of a set of five "codes of signification." (Bridger, 1989: 146). These codes of signification are then presented as the fundamental underlying structures present within all narratives. Consequently, the analytical approach developed by Barthes is presented as a model through which one can uncover the fundamental units of narrative signification within any text.

⁵⁰ These 'lexia' are the units of signification identified by the reader, those through which the interpretation of a text's meanings are made. The term 'lexia' is related to the linguistic terms 'lexis' (noun) and 'lexical' (adjective) "referring or relating to the meanings of words in a language as opposed to their grammatical functions." (*Chambers 21st Century Dictionary*. (Revised Edition), 1999: 785)

Bridger adopts Barthes' analytical model and modifies it to be applicable to E/A art music. In Barthes' case, the individual item, – the story – is placed into the larger structures to which it belongs, the system of codes through which all narratives are generated. (Barry, 1995: 50) In Bridger's case the E/A art work is placed into a system of aural pertinence through which the general factors of signification are revealed, a system that has been identified by Bridger through his investigation of what listeners identify as salient sounds, i.e., the most often identified factors in a series of test works.

Methodological points of interest.

Bridger's research incorporates some interesting and important shifts in terms of the methodology of inquiry in E/A art music research. Rather than coming at the problem from a traditional analytical perspective, involving a single researcher analysing the work(s) in question from an individual perspective, Bridger seeks to uncover the codes of signification of E/A art music through the analysis of *multiple* listener responses to a *selection* of test works.⁵¹ This is an external aesthetic approach – searching for answers through the analysis of listener response data, the results of which are then based on the multiple responses of listeners rather than individual opinion. Bridger contends that such an approach “should be viewed more favourably when compared with the customary exclusion of any consensus of reported *listening* experience from most musical analysis.” (Bridger, 1989: 149) In this case, it is both the methodology and the type of data that is generated that are seen as original contributory factors regarding E/A art music research.

Bridger's approach, concerning the identification of salient features in a series of works, is similar to that established by Landy through his SHFs. Both Bridger and Landy have identified similar features. The six codes of signification identified by Bridger through his analysis of listeners' responses are:

1) Voice.

⁵¹ These works were, Berio – *Visage*, Cage – *Fontana Mix*, Ligeti – *Artikulation*, Stockhausen – *Gesang der Jünglinge*, Stockhausen – *Telemusik*, Varèse – *Poème Electronique*.

- 2) Concrète sound.
- 3) Music quotation.
- 4) Dynamics.
- 5) Repeated sounds.
- 6) Spatial distribution of sounds.

Landy's SHFs are: (corresponding factors between the two sets have been **highlighted** and numbered in Landy's list)

i) Parameters

- a) **Dynamics** (4)
- b) **Space** (6)
- c) Pitch (and rhythm)

ii) Homogeneity of sound and the search for new sounds

- a) Works based on one or a few pitches
- b) Homogenous textures
- c) New sounds
- d) **The voice** (1) and live instrument plus tape

iii) Textures not exceeding four sound types at once

iv) Programmes

- a) Nature
- b) **Recycled known sounds** (2) – **musical** (3) and anecdotal
- c) Acousmatic tales

v) And so on

Bridger and Landy's findings appear to support the idea that it may well be possible to establish, through an aesthetically-based methodology, a generalised framework of salient features/SHFs relative to particular types of E/A art music – establishing a potential system of categorisation based on these salient factors. In Bridger's study these saliences are used as markers indicating the pertinent aspects of a work that should be taken into account when analysing the work, i.e., these saliences are what most listeners are identifying

therefore the analyst should focus on these factors when analysing similar works. This approach shifts the analytical perspective from an inductive poietic approach to an external aesthetic approach. Yet ultimately remains as a means through which to analyse the work itself.

Bridger's series of codes serves to reveal the elements that were most often identified by listeners in a series of works. It does not suggest how these salient features were interpreted by the listeners within the context of each work, in terms of their broader listening experiences, e.g., extra-musical meanings, symbolism, verbal narratives – what the work might be communicating in general through these salient features. Listener response data is analysed, in terms of this extra musical context, by Bridger himself. He offers interpretations as to the structural/musical reasons for the use of the identified salient characteristics in the work – including their symbolic, meaning-based significance. This approach appears to shift the methodology from external aesthetics to external poietic analysis. For example, discussing the listener's detection of musical quotation in Stockhausen's *Telemusik*, Bridger writes,

The single, peremptory strokes on Japanese percussion instruments...are effective both as a means of structural articulation and as representative symbols for the awesome, autocratic power of the ancient culture from which they emanate, and which, by his own account, so impressed the composer as a formative influence on this work. (Bridger, 1989: 152)

This evaluation of the function of the musical material in the work (identified as pertinent through Bridger's third code of signification) appears to be his own interpretation (or that established through reading other information concerning Stockhausen's communicative intent), he does not attribute this interpretation to the listeners. This evaluation also incorporates a further interpretation as to the meanings of the musical material; the sounds are being interpreted as representational symbols. Is this *Bridger's* symbolic interpretation? Was it suggested by the listeners? Or some form of composer intention information? A similar situation with regard to meaning-based interpretation occurs in the section discussing the listeners' detection of the voice in Berio's *Visage* and Stockhausen's *Gesang der Jünglinge*. "[T]he woman in *Visage* is taken to be oppressed, turbulent, personally

involved in a situation of imminent crisis; the boy in *Gesang der Jünglinge* seems aloof, clinical, detached, unresponsive” (Ibid.: 150) Are these *Bridger's* interpretations or those that have been suggested by the listeners?

The issue here is that Bridger does not overtly or transparently convey to us what these codes signify for the listeners in their own words, through their own experiences. For example, a listener, or group of listeners may consistently detect the presence of the voice in works that contain such elements, thereby offering a generalised trace of recognisable and pertinent characteristics within that particular work. But what the presence of the voice signifies for the listener, in terms of the meanings projected onto the occurrences of the voice in the work by the listener in relation to the communicative context the work, and how such salient features contribute to the listeners' appreciation/enjoyment of the work remains unexamined in this investigation.

Bridger does not present statistical results concerning his data, as the means by which he collected the data was through discussion and so remained anecdotal. “[S]ince the involvement of listeners took the form of discussion rather than objective testing...statistical analysis was neither possible nor appropriate.” (Ibid.: 149) It would be interesting to know if certain salient factors were identified more often than others, thereby indicating a particular sound identification tendency. It would also be interesting to know how often, during the discussions from which he solicited his data, listeners actually discussed the meaning content of the works, and what these meanings mostly concerned.

The I/R project has established a similar methodological model through which salient features identified by groups of listeners within a particular series of test works can be revealed. However, the I/R project is taking this particular investigation further, by investigating how the listener then uses these salient features as SHFs through which they not only engage with the sounding content of the work, but establish an interpretation as to what the work might be communicating.

1.3.3 François Delalande – ‘*Music Analysis and Reception Behaviours: Sommeil by Pierre Henry.*’

Delalande’s study considers methodological problems encountered in the analysis of acousmatic music (E/A art music). Through the results of his theoretical, critical discourse he proposes a means through which to overcome such problems – the greater involvement of aesthetic-based analytical methodologies. To justify this proposition Delalande presents the results of an external aesthetic investigation highlighting certain listening behaviours from which he develops a typology of listening strategies.⁵² The main objective of his empirical investigation is to differentiate and describe reception behaviours, which can then lead to some more general observations about music analysis. (Delalande, 1998: 13)

Concerning music analysis.

Delalande poses two fundamental questions, “What is the aim of music analysis? What would one like to demonstrate, to know about a piece of music?” (Ibid.: 19) His answer involves firstly a critique of morphological analysis, that which describes what the music *is*, or what *the* form or *the* structure is. Delalande dismisses the illusion that there can be such a *definitive unique* analysis of acousmatic music. [His emphases]. (Ibid.: 18) He suggests that arriving at *the* objective structural typology of acousmatic music is improbable if not indeed impossible. This is due to the infinite morphological characteristics and potential configurations of such morphologies present in E/A art music and that there is at present “no score, no system, and no ‘pre-segmented’ discrete units like notes” (Ibid.: 14) Such privileging of the ear as the diagnostic tool (Camilleri & Smalley, 1998: 4) results in a subjective listening experience and as a consequence, based on his notion that all listening behaviours (that he has identified) are examples of analytical processes,⁵³ highly subjective analytical practices.

Delalande’s critique of morphological analytical practices highlights limitations of Schaefferian theory, suggesting that “Schaeffer’s descriptions need to be revised,

⁵² This is a similar approach to that taken by (Smalley, 1992).

⁵³ See (Delalande, 1998: 25)

completed and adapted to the types of sounds now more commonly used in music.” (Delalande, 1998: 18) Under the Schaefferian model, the morphological analyst may, through a reduced listening strategy involving morphologically concentrated repeated listening, identify and isolate structural, dynamic units into which the overall work can be initially divided. Such structural units, under this particular analytical practice, are identified as non-signifying sound objects (they have no extra-musical meanings). Each of these identified units that comprise the whole work can then undergo a further round of listening through which such units can be divided into smaller units; and so on – a continued reduction. The questions here, acknowledged by Schaeffer himself, are; at what point should one stop the reduction? And when has the point of definitive morphology been reached? Delalande’s response to this is to ask a more fundamental question perhaps; what does such an analytical methodology achieve?

Delalande’s principal concern with such a morphologically focussed, reduction-based analytical approach is in part an epistemological one in that he questions in what ways such analysis is pertinent to contributing usable, meaningful knowledge to the greater body of E/A art music research. From his perspective, the results of any analysis should mean something beyond a description of the morphological units comprising the sounding content of the work. This idea suggests perhaps a utilitarian aspect to Delalande’s thinking, that analysis should produce data that is not *only* pertinent to the analyst alone, but that is useful to others in terms of the methodology employed to collect such data and the results of analysis of such data. This is a similar view to the individual vision of formalism addressed by Landy, “how many articles and treatises have we read based on an individuals own vision of formalism?...the answer to this question will be located in the ninety plus percentile.” (Landy, 1999: 63)

Delalande maintains that any morphological analysis, in order to be worthwhile and meaningful must be pertinent to either the methods of production of the work (poiesis) and/or reception of the work (aesthetics). Any analytical approach that is not pertinent to

the communicative reality of the work is deemed to be irrelevant or indeed absurd.⁵⁴ Michael Norris, addressing a similar issue states that, “often the analyst values the analytical ‘result’ or ‘elegance’ over actual faithfulness to the interpretive experience.” (Norris, 1999: 65) In the most extreme case this results in the analyst producing an analysis that is impressive in its intellectual complexity, yet has little particular application beyond itself.

Delalande’s critique of certain approaches to analysis is perhaps best explained in the following extensive (yet pertinent in its extensiveness) quotation.

I would say that a morphological analysis which is not guided by a search for pertinences either does not contribute a great deal or gets lost in absurdity. It is a bit like trying to analyse Leonardo da Vinci’s Mona Lisa by noting that the painting represents a three-quarter bust of a woman, with hands crossed, countryside in the background, and by pointing out geometric spaces which differentiate the descriptive characteristics which spring immediately to mind, such as light vs dark, sharp vs blurred, close vs distant, etc. All this does not mean much. [*Here one encounters the descriptive approach*]. Analysis begins beyond this...One could enjoy oneself examining forms that demarcate a colour spectrum contained between two arbitrarily chosen frequencies. Leonardo...did not venture this far. Moreover it is certain that no viewer will perceive these forms...[*Such an approach is neither pertinent to the means of production nor the responses and interpretations of the audience*]. By contrast, one could pay attention to certain pertinences, such as the look, the smile, the workmanship, the perspectives, because one knows or hypothesises that they will shed light on the fascination the painting exercises over certain people...because they respond to the intentions, speculations, influences, techniques, etc of the painter. (Delalande, 1998: 21)⁵⁵

Delalande’s external aesthetic methodology searches for consistencies, not directly in what listeners hear (a SHF approach) but in the way they listen, their listening behaviours; to discover if there is a categorisable typology of listening strategies. (Ibid.: 23) Through comparative analysis of the listening behaviours of listeners with varying degrees of E/A

⁵⁴ Providing a hypothetical example of a pertinence-free, morphological analysis of da Vinci’s Mona Lisa, Delalande states “This is one example of detailed morphological analysis among thousands which we shall ignore due to their absurdity.” (Delalande, 1998: 21)

⁵⁵ [bracketed], *italicised* comments within this quote are mine.

art music experience Delalande discovered consistencies in these behaviours. At the time he collected and categorised these results he was not fully confident in their validity. This was because the listening behaviours observed may have been relative to the circumstances of the particular listening experience – the testing conditions and criteria – such as the type of work used as test material, the listener types used as listening candidates, and the total number of participants. (Ibid.: 24) This lack of confidence, in terms of the validity of results, demonstrates the importance of establishing a cohesive and integrated field of I/R research, the sharing of results from similar studies. As I have demonstrated (in a relatively simplistic manner) with the Bridger/Landy comparison, sharing results is most useful in terms of identifying strong areas of similarity in the listening experience.

Establishing validity.

In order to establish validity in his findings Delalande conducted a similar study using a work by Debussy.⁵⁶ Having identified similarities between the listening behaviours concerning the two test works he became more confident in publishing the results of his first study. However, as is noted in his conclusion, “[T]hese observations are based on a very restricted corpus of testimonies, gathered from eight listeners who, in general, are close to electroacoustic music and to the piece on which the analysis has focussed.” (Ibid.: 64) What this particular limitation demonstrates is that in order for there to be a greater validity afforded the results of aesthetic and dramaturgic aesthetic studies, research such as Delalande’s and consequently that which is being undertaken by the I/R project⁵⁷ should:

a) involve a more diverse listener demography and greater numbers of participants in terms of aesthetic data solicitation methods.

⁵⁶ The work in question was *Clair de Lune*. Results of this study can be located in (Delalande, 1989).

⁵⁷ It should be noted that Delalande’s methodology is fundamentally analytical, whereas the I/R project (at the methodological level) is not concerned with analysis of the RWE/A work in the first instance. The methodology developed by the I/R project has been devised as a model through which the collection and study of listener responses and composer intentions regarding RWE/A music can be conducted.

b) be regarded as open-ended points of departure for other aesthetic-based studies rather than definitive, self-contained and closed-ended theses.⁵⁸

Although noting that his findings are not to be viewed as generalisations due to his limited listener group, Delalande suggests that his research demonstrates in principle that,

1) “There is a coherence in listening behaviour...that expectations and specific interests determine strategy” (Ibid.: 25). This finding is pertinent to the extent to which Delalande’s listener group are electroacoustically experienced. Indeed all of his listeners are to varied extents electroacoustically experienced, as such they will have developed a particular E/A art music listening strategy and so will have certain expectations as to how the work will develop. Such expectation will result in a search for particular pertinences relative to these expectations.⁵⁹ Delalande’s research highlights similarities in these electroacoustically experienced listening behaviours, as part of a search for a consistency of pertinences.

2) Although listeners may describe aspects of the work using different wording in terms of descriptions, metaphors, and interpretations; the structures identified by the listeners on which these varied interpretations are based are essentially the same. Therefore, rather than morphological principles being rejected due to their irrelevance, aspects of structure can be included in the analytical model proposed by Delalande as they have been shown to be statistically pertinent to the listening experience. (Ibid.)

By way of offering quoted examples of actual verbal listener responses – the data through which he has constructed his categorisations, an approach that is an important means of establishing validity through transparent interpretation of the data – Delalande organises listening behaviours into three particular categories:

Taxonomic listening behaviour.

⁵⁸ Another trial, using the I/R methodology was conducted whilst I was completing this PhD. See (Landy, 2005).

⁵⁹ An expectation driven search for pertinences operates in a similar manner to James Gibson’s ‘affordances’; see chapter 1.2.7 and (Gibson, 1966).

Taxonomic listening concerns “the listeners desire to have a global...vision of the work...to distinguish large morphological units such as sections...to notice how these units are arranged in relation to one another...to try and memorise all this data.” (Delalande, 1998: 26-27)

Empathic listening behaviour.

Empathic listening concerns an attention to sensations “which are...described as the ‘physiological’ product of the sound...Listeners talk of blows, impacts, slides...as if they have been subjected more or less to these movements themselves.” (Ibid.: 37)

Figurative listening behaviour.

Figurativisation concerns the listener’s interpretation of the sound as something that moves, that is living; it includes narrative and symbolic interpretations. (Ibid.: 47)

Delalande’s research does not end in this categorisation of listening behaviours, it continues (seeking the open ended approach spoken of above), presenting such findings as the means through which to establish a model of analysis. This continuation is perhaps due to his findings in a third area of listening behaviour:

3) Listening strategies employed by listeners are themselves analytical processes. Such processes, based on analysis of the listener response data, are “sufficiently well described as to lead to not one, but to three distinct analyses.” (Ibid.)

Delalande suggests that one can adopt these listening strategies as analytical practices and “apply them systematically to the whole piece.” (Ibid.) To support this notion he proceeds to demonstrate the viability of this approach by using his three identified listening tendencies as lenses through which to engage in an analysis of the work.⁶⁰ Delalande’s listener response findings present data that allows for the analyst to confront their own

⁶⁰ See Taxonomic Analysis of *Sommeil*, pp. 30-37; Empathic analysis of *Sommeil*, pp. 42-47; Figurative Analysis of *Sommeil* pp. 52-59 in (Delalande, 1998)

listening with the listening responses of others. (Camilleri & Smalley, 1998: 5)⁶¹ If the various identified listening behaviours (listening strategies) are essentially analytical in approach, then the adopting of these approaches by the analyst will result in analytical approaches directed towards analysis of the object itself (non-aesthetic analysis) being pertinent to actual, rather than hypothesised, theorised or indeed purely individualistic listening experiences.

Methodological points of interest.

Michael Norris makes a critical observation of Delalande's aesthetic model suggesting that it is not analysis. (Norris, 1999: 66) In terms of Delalande's methodology this is indeed so at a certain methodological level, as he seeks to gather and categorise pertinent listener response behaviours. There is no particular analysis of these behaviours themselves in terms of how and why such behaviours exist, incorporating an analysis based on for example, cognitive issues. Delalande does however, present the findings as an example of particular listening behaviours from a specific cultural group – electroacoustically experienced listeners – and so may have produced a data set that could be further analysed in terms of how such listening behaviours are pertinent to this particular group.

But there *is* both an implicit and explicit analytical content here. Implicit – in that application of his methodology gathers data that can be subject to various analyses and/or generates data that reveals pertinent areas of potential analysis within the work itself, i.e., the methodology itself is rigorous as a data gathering exercise and having put it into practice one may then choose as to how the collected data is to be analysed and/or used to validate a particular analytical practice. Explicit – in that there are several instances where Delalande introduces structural analysis of the work itself into his model. For example, his *Taxonomic Analysis of Sommeil* (Delalande, 1998: pp.30-37) his *Empathic analysis of*

⁶¹ An example of how listener response data can be used by an analyst to re-interpret and re-analyse a particular work can be found in (McCartney, 2002). In this case McCartney uses a set of listener interpretation data identified through her own research (McCartney, 2000a) as a means to re-investigate the work through the lens of the particular listener interpretations. Bridger (1989) also uses listener response data in a similar manner, as discussed in chapter 1.3.2.

Sommeil (Ibid.: 42-47) and his *Complimentary Points of View* (ibid.: 59-61) Indeed, such structural analysis is congruent with Delalande's goals. He does not seek to reject morphological analysis outright, but seeks to discover the pertinent areas of morphological analysis in relation to production strategies and listening strategies of the work in question; this can be explained by returning to his Mona Lisa analogy.

[O]ne could pay attention to certain pertinences, such as the look, the smile, the workmanship, the perspectives, because one knows or hypothesises that they will shed light on the fascination the painting exercises over certain people...because they respond to the intentions, speculations, influences, techniques, etc. of the painter. To analyse these pertinences one will rely on morphological descriptions. For instance, one will describe the faraway look by noticing that the dark patch of the pupil is displaced in relation to the axis of the eye. *But one would never have sought out this morphological characteristic... if one had not been guided by a search for pertinences.* [My emphasis]. (Ibid.: 21)

Delalande contributes to E/A art music research through this particular study by way of suggesting that his search for pertinences provides data through which one may bring a certain cohesion to analytical practices from both the poietic and aesthetic points of view. For example, analysis of viewer responses to the Mona Lisa reveals that there is a consistent viewer fascination with the faraway look in the eye. The analyst may then take this pertinent information and examine the viewer response data in terms of a morphological analysis of the work itself, its physical presence, e.g., the way the dark patch of the pupil is displaced in relation to the axis of the eye is how the faraway look has been created. (Ibid.) This analysis has also, by default demonstrated the possible production strategy, the painter intentionally created this faraway look using a particular compositional approach, painting the eye in a particular way. Delalande's identification of response pertinences therefore leads to a chain of related analysis. This chain of analysis does however, highlight an element that is absent in Delalande's study, particularly in relation to production strategies – composer intention.

Although Delalande does address the issue of relating his aesthetic data to analysing the means of production of the work, such production techniques are only being investigated, in this instance from a morphological perspective; also, without seeking the

composer's confirmation of her/his production techniques, analysis of production techniques remains quite speculative. This approach does not address what the composer intended to be communicated through the work. Re-using elements of his Mona Lisa analogy to illuminate this problem, one can ask – why did the painter create the faraway look in the eye? What was it intended to mean? One may admire the brush strokes and physical techniques used to create the faraway look that so fascinated the viewer, but if the viewer felt that the faraway look meant something, that it communicated a particular meaning, then morphologically concentrated production strategies alone are not entirely pertinent to the viewer's experience of the work and so the pertinences of compositional intent need to be considered in relation to the interpreted meaning content of the work. In short, one should seek to ask the artist why he chose to paint the eye with such a faraway look.⁶²

The I/R project's methodology and goals – although bearing many similarities to Delalande's in terms of its empirical techniques – move in a slightly different direction, looking towards the communicative factors, the communication existing between the composer and listener, the relationship between maker and taker, particularly in terms of what the work is intending to communicate and what it is being interpreted to mean. The I/R project is predominantly concerned with the interpretative elements of the aesthetic process (source recognition and its relationship to meaning, narrative, imagery etc.), this approach is of course relative to the types of work represented in the project.

1.3.4 Andra McCartney – *'Sounding Places with Hildegard Westerkamp.'*

Of all the aesthetic-based E/A art music research investigated by the I/R project, Andra McCartney's is the one most related to its goals in terms of collecting data regarding composer intention and listener response and investigating the communicative relationship between the composer and the listener. McCartney's research thesis is concentrated on the work of soundscape composer Hildegard Westerkamp. Her methodology involves

⁶² This is of course problematic in the case of the Mona Lisa in that a deceased artist cannot provide such information.

gathering information concerning the composer's compositional and communicative intentions and listener responses to various works with regards to investigating the communication of meaning through such works. In this particular instance the investigation concerns the soundscape works of an individual composer and is therefore a relatively localised study. However, such a localised approach is relevant and appropriate in the context of McCartney's research with regards to the extent to which she incorporates a biographic-style study of the composer in question, and how this biography feeds into and influences the composer's artwork.

McCartney uses a series of user groups through which to generate aesthetic data concerning Westerkamp's works. The use of multiple user groups provides data through which common and disparate themes concerning the listening experiences of various interpretative communities are exposed. An interpretative community is a group of people who interpret the artwork (this includes popular forms of art) from a particular perspective. Such a perspective is based on various influencing factors. These factors can operate on a large scale, creating numerically large interpretative communities, such as those influenced by nationality, culture and cultural identity (at the national level), race, religion, political ideology etc. But can also operate on a smaller scale, numerically smaller groups, influenced through such factors as culture and cultural identity (at the local level), vocation, education, artistic taste, etc. McCartney demonstrates the importance of including the communicative intentions and compositional strategies of the composer and analysis of the listening experience to a greater degree in E/A art music research with regards to understanding the communicative qualities of the soundscape work. "My method of analysis...makes evident the diverse conversations between composer and listeners, composer and researcher, musical work as composed and as heard." (McCartney, 2000a: ch.1)

Through a critical analysis of similar response-based studies, for example, the work of Michael Bridger, McCartney uncovers gaps in existing research methodology, that she seeks to address. One such gap concerns incorporating listener responses into E/A art music research in a much more integral way; such as including responses from a wider range of interpretative communities and focussing on gathering individual written responses. This

allows for the listeners' own voices, their own personal listening experiences to be heard, and so establishes a wealth of broad data regarding interpretative strategies and listening behaviours through which to examine the diverse extent to which the composer/listener conversation is occurring. (Ibid.: ch.5) As will be discussed later, McCartney discovers that establishing such a wide range of interpretative communities can be problematic.

Composer intention.

McCartney suggests that in Westerkamp's compositions, composer intention is an important element, especially when considering the 'soundscape' aspect of her work (the capturing and reproducing of a specific place's sonic environment). Westerkamp intends to communicate these specific sonic aspects of a particular environment to the listener in order to convey a very particular sense of place, a mind's eye sense of place using sound as the primary imaginative stimulus. "Westerkamp's approach to composing is based on listening to the sounds of a place, and using electronic means to subtly highlight the voices of that place, drawing attention to its sonic specificities and musicalities." (Ibid: ch.1)

RWE/A works, wherein the composer's communicative intent is based on the listener's recognition of real-world sounds and the communication of meaning through the referential aspects of real-world sounds as part of a shared lived experience within the real world are often accompanied by a verbal articulation of intent that does not stray into the excessively poetic or abstract (in terms of the CD track notes). This demonstrates the relevance of such soundscape works in listener response studies by way of the ability to map compositional intentions on to listener response (in terms of the works verbal meanings) in a direct manner without having to firstly interpret the composer's verbal articulation of intent. However, to remove as much composer intention *interpretation* as possible when uncovering the communicative intentions of the work prior to analysis of the sounding content, McCartney instigates an interesting approach; establishing a friendship with Westerkamp through which she has access to the more detailed aspects of her communicative intentions for particular works, beyond that which is conveyed to the listener through the track notes, and at an even greater level concerning certain biographical information regarding aspects of Westerkamp's lived experiences. This knowledge has led

to McCartney constructing a dialogue that allows for these intimate, personal aspects to be shown as important influences on the compositional style and content of Westerkamp's compositions. It demonstrates how such influences can manifest themselves as strong lines of communication/conversation between composer and listener, composer and researcher.⁶³ Knowing intimate aspects of the composer's biography can shed light on compositional inspiration and communicative motivations and highlight the subtler aspects of a certain works' meaning content when undergoing poietic analysis.

Such an in-depth knowledge of the composer's biography is perhaps *most* pertinent to evaluation of the works themselves by the researcher, as the researcher will have a greater depth of composer biography data through which to conduct their own individual, focussed evaluation of the work from a communicative perspective. This is confirmed by McCartney, "In part, this dissertation explores how the growing friendship between Westerkamp and me opens up creative possibilities for a sound alliance between us, and contributes to our knowledge." (Ibid.) The choice of words here highlights the way in which the relationship between McCartney and Westerkamp leads to an understanding of Westerkamp's work from an individualistic perspective. The sound alliance is between McCartney and Westerkamp and the knowledge being expanded is *theirs* and as such may not be fully congruent with a less biographically informed listening experience of the work. However, what is interesting here is that such a relationship, one whereby the composer has a means through which to receive and so react to listener response information, establishes a very simple and direct feedback model.

A biographically focussed approach demonstrates that the sharing of a work's dramaturgy may establish a greater feeling of shared communication between the composer and listener than in the majority of listening experiences where the composer is presented and/or perceived as a distant, removed element and as such relatively irrelevant to the listening experience.

⁶³ It is not being suggested that the McCartney/Westerkamp relationship was established for research reasons only.

Interpretative communities.

Examples of such interpretative communities in McCartney's research are best highlighted at the small scale level, as it is at this level that very particular interpretative communities and practices are formed and as such have a large influence on listener response data. Three examples of particular, small scale interpretative communities in McCartney's research are listener groups from:

- Queen's University gender and music class;
- Graduate class in Women's Studies;
- Waterloo composition class.

In generalised and speculative terms, the gender and music class will tend to interpret the work from a gender/music perspective. The women's study class will incorporate feminist issues in their interpretations. The composition class will perhaps interpret the work focussing on how it may have been composed, the compositional techniques used, its structure and the form of the composed work.

The I/R project is also investigating listener responses from an admittedly small selection of the E/A art music community – in terms of how this group listens to and appreciates RWE/A works⁶⁴, but it also includes a broader, relatively non-specific interpretative community – the general public. Collecting data from both communities or indeed multiple interpretative communities (both large scale and small scale) as will be the case with the general public group, allows comparative analysis to take place whereby one can establish, through the use of empirical techniques the differences and similarities between various interpretative communities at both the large and small scale levels rather than simply describing the practices of a particular small scale, interpretative community; McCartney acknowledges this.

⁶⁴ Those works that are similar to the three works used as test material in the project.

I was fortunate in this work to have access to a number of interpretive communities, who were able to contribute differently to my understanding of a range of listener responses. For instance, the ‘restricted listening’ of students in a graduate course in Women’s Studies tended to focus primarily on concerns about gender identity, essentialism and gender stereotyping. (McCartney, 2000a: ch.5)

Such analysis of particular interpretative communities is an important element in terms of the SHFs, in that McCartney’s findings demonstrate that listening strategies are often contingent on the interpretative community to which the listener belongs – *taxonomic* listening strategies, (Delalande, 1998: 17) or based on affordances (Windsor, 2000: 11). This is an important factor, as the listeners are engaging with the work by way of using their own life experiences, incorporating them into their listening strategy. What this may demonstrate is that the very nature of the work (in McCartney’s case, the soundscape work) with its real-world, real-life referential and meaningful content, encourages the listener to engage with the work as something to be interpreted by way of a personalised interpretative approach with respect to what the content of the work might mean. A different response may well occur if the same group are presented with a more traditional note-based piece of music or, as is perhaps more relevant in terms of the E/A art music corpus the listeners are presented with an abstract, non-real-world referential work.

What is most interesting about “the ‘restricted listening’ of students in a graduate course in Women’s Studies” (McCartney, 2000a: ch.5) is that their interpretative agenda appears to be directly related to their academic studies rather than their everyday non-academic life experiences.

[I]n music theory and composition classes, there was often a lot of discussion about whether soundscape composition is music or not, and requests for my definition of what constitutes music. In the graduate Women’s Studies class in gender and culture, there was a general discussion about the kinds of challenges faced by women composers as they work, as well as discussions about stereotyping and essentialism. (Ibid.: ch.11)

Such data suggests that the interpretative communities addressed in McCartney’s study are quite specialised listening communities and are therefore providing response data that is

perhaps only pertinent to a very particular group. Although McCartney's research seeks to investigate such interpretative communities, it does appear to be given a predominant focus and is not perhaps allowing for McCartney's desire to engage with a broad range of listener groups to be realised in its fullest potential.

The actual listening behaviours recorded in the above cases could be based on two factors:

- 1) The environment in which the testing took place (the classroom/lecture room setting).
- 2) The personnel present at the testing session.

The listener, being situated in a lecture room setting, in the company of a group comprising their fellow students from the same women's studies class, may result in the automatic instigation of cognitive behaviour related to the behavioural system that they normally employ in that particular setting – that of discussing issues related to female gender stereotyping and the challenges facing women in contemporary society, etc. The question in this instance is, would the same group of listeners respond to the work in the same way, when presented it individually in, for example, their home environment? It may well be that the members of this group or any other academically situated user group *do* interpret and contextualise their lived experiences through the lens of their academic learning.

Methodological points of interest.

In her concluding remarks McCartney discusses the important contributions that the analysis of listener responses from a broad range of user groups can make to E/A art music research. This is of particular importance with regards to the greater inclusion of aesthetic approaches in the study of E/A art music. "My research indicates that integrating a wide range of listener responses can raise issues that might not otherwise occur to the researcher." (Ibid.) This is similar to the issues raised by Delalande in his search for pertinences, by Bridger's search for salient sounds in Windsor's investigation of primary

perception and Landy's search for the SHFs.⁶⁵ Using an aesthetic methodology reveals doorways to knowledge that are not overtly apparent through technically poietic evaluation or approaches based on an individual's analytical assessment. Also, incorporating the non-electroacoustically experienced listener into the field of E/A art music research may reveal listening behaviours that allow for an engagement with and appreciation of the E/A art work usually reserved for the electroacoustically specialised/experienced listener.

Juxtaposing responses from people of different disciplinary backgrounds can suggest why expertise in a genre of music does not guarantee intent listening. Attitudes and values associated with disciplinary knowledge focus the listener on certain aspects of the music, and can even stop him or her from listening at all. The inclusion of a wider range of listeners offers a number of possible perspectives on the pieces, and other potential ways of understanding them. (Ibid.)

Here McCartney introduces the notion that all potential interpretations of an artwork are valid as the incorporation of the lived experiences of the audience into their interpretative strategy in order to assign meanings to an artwork is personally subjective. Yet such interpretations can be seen to make sense by others who had a different interpretation. For example, one can understand why the women's study group sought meanings in the work from a particular perspective, and one can potentially use their interpretations as a means to understand the work in their terms. One can also understand why the composition class sought meanings from their particular perspective. Both readings make sense when contextualised through the interpretative community from which they emerged and offer the means through which a reading/interpretation of the work could be conducted by a listener from an unrelated interpretative community.

The listener groups tested by McCartney in this particular study, in terms of interpretative communities, reveal a predominance of academically disciplined and/or musically trained listeners, i.e., student-based listener groups and musically minded/educated listener response participants – this observation is rather speculative due to the fact that McCartney does not offer a precise statistical break down of the percentage

⁶⁵ See (Delalande, 1998); (Bridger, 1989); (Windsor, 1995) and (Landy, 1994b).

of academic, non-academic, musically knowledgeable and musically naïve listeners in her user groups. (Such a lack of statistical support is a particular issue that will be addressed by the I/R project.)

McCartney uses the following sets of user groups:

User Groups with musical knowledge

Waterloo composition class

Waterloo theory class

Queen's University gender and music class

A graduate class in Musicology

Undergraduate ethnomusicology classes at York University

Canadian composers

Composers from Chicago

User groups with E/A knowledge

Queen's electroacoustic composition class

York electroacoustic composition class

Radio artists in Peterborough

Several people who had taken soundscape workshops in New Delhi

Some people who said that they rarely listened to electroacoustic music

User Groups without musical knowledge

Grade 10 boys' choral music class

Grade 10 girls' vocal class

University of Toronto graduate seminar

Graduate class in Women's Studies

Undergraduate listening class for non-Music majors

Public group from a performance of work at a public venue (4 responses)

User groups without musical knowledge, E/A art music knowledge and who were not at the time of testing engaged in academic study (i.e., of a particular academically focussed interpretative community)

Grade 10 boys' choral music class

Grade 10 girls' vocal class⁶⁶

Public group from a performance of work at a public venue (4 responses)

In all, McCartney uses seventeen musically experienced groups and six musically inexperienced groups (three of these inexperienced groups are also academically focussed groups and so, based on examples of their responses in the thesis are of a particular specialised interpretative community). The most significant factor in terms of McCartney's user groups is the predominance of musically experienced listeners, however without knowing the precise numbers comprising each of the groups one cannot state for definite that such a predominance was indeed the case.

On one level, such user group predominance is relevant to McCartney's investigation of the listening behaviours of listeners from various disciplinary backgrounds and various interpretative communities, regarding the extent to which academically/musically focussed knowledge can often confine the interpretation strategy to a particular area of focus within the work, a focus not always relative to the communicative intentions of the composer, specifically in terms of the expression of extra-musical meanings intended to be communicated through the work. However, such specialised interpretative communities are not representative of the experiences of a broader general listening community as would be found in the general public. It is however, important to note that all human beings are a part of a particular interpretative community.

The intelligibility of our accounts of the world derive not from the world itself, but from our immersion within a tradition of cultural practices...it

⁶⁶ The Groups comprising Grade 10 boys' choral music class and Grade 10 girls' vocal class have not been placed in the musically knowledgeable set as the responses (quoted directly by McCartney in her thesis) from the participants in these groups do not suggest that they were using musical knowledge in their listening strategy.

is from our relationships within interpretative communities that our constructions of the world derive. (Denzin & Lincoln, 2003: 577)

McCartney does acknowledge the problem of user group predominance in her research.

In the previous paragraphs, I note a persistent interest in disciplinarity and how it affects listening. This is likely an increased concern because most of my listening sessions took place in university or high school classrooms. I did make concerted efforts to expand this listening sample, such as asking for responses on the internet...playing pieces on the radio and asking for responses, making listener response forms available at several concerts of Westerkamp's work. The amount of effort involved in these approaches was considerable, yet I accumulated a much smaller number of (sometimes quite brief) responses in comparison with the results from large "captive audiences" available in educational institutions, who tended to write extensive responses. I have often been critical of surveys that are limited to academic institutions. Having now done such a project, I am more sympathetic than before, realizing the very practical considerations involved. (Ibid.: ch.5)

Using the internet and the radio as a means to introduce a broader audience demographic, through which to conduct the listener testing appears to be the obvious solution to the problem of limited user groups – the captive academically focussed audiences spoken of above. However, such empirically uncontrolled testing, where the researcher is not present during the testing procedure, results in a situation where one can not guarantee that all of the testing participants have followed exactly the same listening procedures. This was a particular concern during the design of the I/R methodology. The inability to use the internet as a means through which to conduct testing has therefore limited the listener testing participants in the project to those residing in the UK.

1.4 Consolidated points of interest – establishing the potential investigative foundations of the Intention/Reception project.

Each of the studies represented above has proposed and developed a methodological approach towards the investigation of E/A art music based on aesthetic processes. These studies have identified and addressed gaps in both the theoretical and empirical domains of E/A art music research. These studies address such issues by way of discussing why such

approaches are needed and how such aesthetically-based methodologies may indeed proceed, presenting practical examples of new and adapted aesthetic methodologies.

Investigation of the selected studies represented through this thesis has revealed certain points of interest and areas of E/A art music research that require further attention, in particular the means through which to bind these studies together into a cohesive methodology. These principal points of interest have been categorised as follows:

A) Methodological issues – transparency and the validation of results:

i) Methodological design – There is insufficient explanation of how the particular experimental methodology was devised and developed in order to collect the data relative to addressing the issues and fulfilling the goals of the study.

ii) Testing criteria – There is insufficient explanation as to how the testing process was structured, how the testing proceeded, how data was collected, what instructions were given the listeners? What questions were asked? Under what particular conditions was testing conducted?⁶⁷

iii) Statistical support – There is insufficient statistical data concerning variables such as listener numbers and listener demographics. Results extrapolated from the data are not sufficiently statistically qualified. Not all aspects of such studies necessarily require statistical support, indeed such aesthetic studies are predominantly qualitative by nature. However, the I/R project has identified certain areas where statistical support assists in bringing clarity to and establishing validity in the results of data analysis – for example, to demonstrate the accessibility of a particular work and the potential for greater dissemination of such works one may present statistics regarding how many listeners expressed that they would choose to listen to similar works in the future.

⁶⁷ The inclusion of information from categories (A.i) and (A.ii) would serve a didactic purpose for others who intend to run similar projects.

iv) Response data – There is a need to present verbatim examples of listener responses in order to support findings and results. Such an approach will also limit, as much as is possible, researcher interpretation of listener response data.

B) Methodological points of interest:

i) Dramaturgic aesthetics – Establishing an investigative methodology that is not, in the first instance concerned with analysing the work itself.

ii) Feedback and triangulation – Establishing the provision for potential feedback and triangulation to occur. Feeding back listener response data to composers offers them pertinent knowledge through which they may become active in terms of establishing the means through which to access new potential audiences. (Related to the accessibility category C.iv)

iii) User group balance – The investigation of listener response has often been based on a particular user group, predominantly that of the E/A art music community and/or musically knowledgeable persons. The establishing of a wider range of ‘user groups’ in the listener response testing participants; as such involving a broader range of electroacoustically inexperienced listeners, those with no knowledge of E/A art music (novice listeners), may offer an insight into the potential accessibility of the genre to new audiences – particularly in reference to the SHFs.

iv) Limited test works – The number of works used is either too few, limited to a particular type/genre and/or recognisable to some or all of the listener testing participants. Investigations should seek to involve a broader range of E/A art music works, ranging from soundscape to abstract. Such an approach may be used to establish which types of E/A art music offer the best way in to the world of E/A art music for the novice listener. (Related to the accessibility category C.iv) As discovered through the I/R project, this situation can be a result of practicality. In a single project using the I/R methodology the number of test works used has to be

limited in relation to the amount of data being generated, in particular depending on the number of listener participants taking part in the study. This issue might therefore be most effectively addressed by the sharing of information concerning similar studies, an approach whereby new I/R research projects have greater/easier access to the results of similar studies and so can therefore investigate types/genres of E/A art music that have yet to be investigated from an I/R perspective.⁶⁸

C) Areas of investigation – the principal points of interest on which the I/R project is based.

i) Composer intention – Incorporating an investigation of composer intention into the research methodology.

ii) Listener response – Establishing an aesthetic investigation that addresses issues concerning the ways in which listeners access the sounding content of a work and interpret what it might be communicating; how and why this occurs?

iii) The composer/listener relationship – Investigating the communicative qualities of the E/A art work, in terms of the relationship between composer intention and listener response. Discovering the extent to which such intentions are being received and how reception of these intentions may assist appreciation.

iv) Accessibility – How accessible RWE/A works are to new potential audiences. Demonstrating the potential for disseminating RWE/A music to broader audiences than those currently listening to RWE/A music. Establishing a method that offers inexperienced listeners a helping hand in areas of the listening experience demonstrated to be problematic in terms of access and appreciation.

⁶⁸ The means through which this could be achieved are discussed in chapters 4.4 and 4.5.

The categories in section (C) above represent the principal areas of investigation of the I/R project and are seen as the most relevant points of interest in terms of establishing the I/R method as a valid field of investigation in E/A art music research.

CHAPTER 2

DESIGNING THE INTENTION/RECEPTION METHODOLOGY

2.1 Methodological consideration – reflections on the practical implementation of a dramaturgic aesthetic methodology.

Chapter 2 concerns my reflections on the practical implementation of a dramaturgic aesthetic methodology, establishing the appropriate methods through which to conduct a research programme relative to the principal points of interest identified in chapter 1.4. These points of interest have been integrated into the following methodological schema. This has been used as a methodological blueprint through which practical developments have been made.

FIGURE 3

METHODOLOGICAL SCHEMA.

- A) The principal areas of investigation.
- i) The access hypothesis – E/A art music is accessible to a broader audience than that which it reaches at present, particularly in works that contain or are perceived to contain real-world sound references.
 - ii) The access theory – by being offered something to hold on to (e.g., dramaturgic information) inexperienced listeners will be more able to access and appreciate a work and so have an engaging and enjoyable listening experience.
 - iii) Dramaturgic aesthetics – investigating the communicative relationship between composer intention and listener response.
 - iv) The influence of dramaturgic information on the listening experience.
 - v) The extent to which and how E/A art music experience influences access and appreciation.
- B) Methodological consideration.
- i) Devise a general method to gather data relative to the principal areas of the investigation.
Particular requirements are:
 - a) A method that solicits data from listeners of varied E/A art music experience. Including a significant group of listeners with no E/A art music experience.
 - b) A method that solicits relevant dramaturgic information from the composers.
 - c) A method that generates data concerning the influence of dramaturgic information on the listening experience.
- C) Practical methodological consideration based on the general method.
- i) Devise a method for soliciting test works.
 - ii) Devise a method for soliciting dramaturgic information for works.
 - iii) Devise a method for soliciting listener participants.
 - iv) Devise testing session methods for:
 - a) Playing test works.
 - b) Collecting listener responses.
 - v) Devise methods of data analysis.
- D) Supplementary questions – these questions may not necessarily influence the methodology in terms of its design, but will be addressed through analysis of the data.
- i) Investigating the SHFs.
 - a) What elements can be identified as pertinent SHFs from the listener response data?
 - b) To what extent are these SHFs consistent in all listener responses?
 - c) What factors are identified as pertinent communicative characteristics by the composers in each of the test works?

Figure 3

This methodological schema highlights the multi-modal nature of the I/R project. It is exploratory, through its investigation of the communicative relationship between composer and listener facilitated through the RWE/A work. It is grounded in the data collected through this exploratory approach, open to potential theories that may be revealed during data collection and data analysis. It seeks to instigate action in the field of E/A art music research and practice based on its findings and by way of its empirical testing methodology designed as a template through which other similar projects may be conducted. It has not sought to develop its methodology through any particular closed paradigm, but is employing relevant protocols from various methodological paradigms, e.g., action research, qualitative and quantitative practices.

2.1.1 Developing a method reflecting access and appreciation – integrating the voice of the outsider into the methodology.

Believe it or not, the technical and stylistic questions which provoke the most debate in our community, and fill the texts and research papers, have no importance for our audience (assuming we really hope to have any). You cannot expect them to be interested in what seems to them to be your esoteric concerns. Ask yourself, instead, if what you are doing answers any of *their* concerns or life issues. That may seem to be too much to expect, but in fact, all of the great art of the past in every culture has done just that, and ultimately we cannot expect to be judged by any lesser standard. (Truax, 1999: 148)

Truax has introduced a socially reflexive practice into the compositional process, whereby the composer reflects on the work in terms of its communicative relevance to others. That is, the work should mean something and communicate something relevant to the audience rather than merely serving to satisfy the esoteric concerns of the composer. Obviously, as discussed in chapter 1, with the predominant audience for RWE/A music being academically situated composer-listeners, the real-life interests of this audience may well be related to their compositional and general aural experiences, as well as their academic knowledge. The esoteric concerns of the composer may therefore be relative to this electroacoustically knowledgeable audience. But Truax's 'having no importance for our audience' statement confirms that the audience he is asking composers to address is not solely that of the academic E/A art music community but a broader, general listening

public. This notion of socially relevant artistic communication and the introduction of the concept 'audience' (in its broadest sense) into the compositional domain defines the RWE/A work as a social action. "*Social Action...is interactive*, that is to say it represents a relation between actors. It is also *symbolic* – symbols are being conveyed between actors...Thus the *intersubjective...is central*." (Alvesson & Sköldberg, 2000: 14)⁶⁹ "What distinguishes human (social) action from the movement of physical objects is that the former is inherently meaningful. Thus, to understand a particular social action...the inquirer must grasp the meanings that constitute that action." (Schwandt, 2003: 296) My goal has been to develop a methodology through which to investigate the shared listening experience, the intersubjective relationship between the actors creating meaning in the work through a shared system of signification.

The actors. Establishing a general testing method for the project involves the selection of informants who will be meaningful for the process to be investigated. (Flick, 2004: 147) There are two actors actively creating the communicative continuum of the RWE/A work: the composer and the listener. The composer is the initial instigator of the social action through his/her intention to compose something⁷⁰. A face-to-face, verbal interview technique through which to gather composer intention information has been deemed impractical as the call for test works was posted on the Internet accessing a potentially broad international community. The most efficient means of soliciting such data was found to be through the use of a questionnaire distributed across the Internet.⁷¹

The second actor in the social action process is the listener. The listener hears the work and interprets its content. Investigating the communicative continuum as a social action and understanding the potential accessibility of RWE/A music to *new potential audiences* requires the incorporation of outsiders as active participants in the investigation. This requires that the methodology be designed to collect and analyse inexperienced

⁶⁹ Alvesson & Sköldberg's emphases.

⁷⁰ There may be instances where the composer's initial compositional intention has been influenced by the targeted audience. In this case the audience has an influence on the direction of the work at this initial stage.

⁷¹ For further discussion on the design of this questionnaire, see chapter 2.2.3.

(outsider) listener responses. To investigate listening experiences that are not based on specialised practices employed by those who *have* had previous experience of E/A art music, those who have a working knowledge of the various theories and analytical processes that have been applied to the E/A art music corpus. An inexperienced listener, who does not know what E/A art music is, has no knowledge of the specialised systems of interpretation employed by those working in the field of E/A art music. They will not have come into contact with the theories concerning, for example, structural typology, spectromorphology, acousmatics, soundscape composition, that is, known approaches that indicate possible models through which to interpret the work. The methodological consideration in this case has been to design a method that gathers data indicating the means by which inexperienced listeners make sense of the test works.

The presence of experienced E/A art music listeners as active participants in the project is also required. In order to understand the extent to which experience and knowledge of E/A art music influences the listening experience, access and appreciation, data solicited from an electroacoustically experienced user group is required to provide comparative benchmark data against which inexperienced listener response data can be analysed.

2.1.2 Qualitative methods – interpreting interpretation.

Investigating the RWE/A work as a social action, a communicative art form based on a shared listening experience that is rooted in the lived experiences of the composer and listener, requires the development of a method that allows participants to reflect openly and individually on their listening experience. Qualitative research concerns the world of lived experience. It investigates situations from the point of view of the persons experiencing such situations, seeking to understand the communication and interaction sequences with the help of observational procedures and subsequent text analysis. (Denzin & Lincoln, 2003: 12; Flick, von Kardorff & Steinke, 2004: 6-7) The process of understanding can be divided into two areas: understanding is firstly the process that gives meaning to an experience. For example, in the case of the I/R project, the composer's and listener's process of understanding the work leads to it becoming a meaningful thing for them.

Understanding is also “the process by means of which we give meaning to an experience in such a way that it relates to some event in the world which has already been given a meaning by [someone else].” (Soeffner, 2004: 95) My position as the inquirer in the I/R project is functioning through the latter, as I will be seeking to understand the communicative aspects of the selected works through the meanings given to them by the composers and listeners.

Certain protocols from qualitative research are appropriate both in terms of the development of data soliciting methods and data analysis. Qualitative research is a situated activity that locates the observer in the world...qualitative researchers study things [in order to] make sense of, or to interpret, phenomena in terms of the meanings people bring to them. (Denzin & Lincoln, 2000: 3) “The strengths of qualitative research derive primarily from [this] inductive approach, its focus on specific situations or people, and its emphasis on words rather than numbers.” (Maxwell, 1996: 17) Qualitative research is especially suited to understanding the meanings, for participants in the study, of the events, situations, and actions they are involved with through the accounts that they give of their lives and experiences; data is rooted in the participants’ perspective. (Ibid.) The concern here is how to solicit, interpret and re-present the participants’ perspective through the lens of the I/R project without excessively distorting the data through my interpretation of what the data suggests. “The main threat to valid interpretation is imposing one’s own framework or meaning, rather than understanding the perspective of the people studied and the meanings they attach to their words and actions.” (Maxwell, 1996: 89-90)

All research is interpretative; it is guided by a set of beliefs and feelings about the world and how it should be understood and studied. Such influence places particular demands on the researcher, influencing the questions being asked and the interpretations brought to bear on the answers received. (Denzin & Lincoln, 2003: 33) My own involvement as the researcher in the I/R project at multiple levels throughout the development of the research methodology – the design of questionnaires, the selection of appropriate test compositions, the design and running of test procedures, the process of data analysis concerning composer intention, listener response and the communicative continuum, and finally through the thesis itself – cannot be ignored in terms of its

influence. My function as inquirer and interpreter of data will therefore be presented as transparently as possible.

2.1.3 Soliciting qualitative data texts.

Investigating individual and personal listening experiences requires the development of a methodology wherein the voices of the participants are allowed to openly express their thoughts and describe their experiences of the music. I have designed a series of questionnaires through which to solicit such openly expressed listener response data. These questionnaires produce qualitative data texts, written descriptions of the listening experience. For example, during the listener testing procedures participants are asked: “Did the composition make you want to keep listening or was it uninteresting? Why?” (a question related to access and appreciation). If one were to remove the question ‘why?’ the data generated becomes binary – either keep listening or uninterested. In this case the data would demonstrate that a certain number of listeners wanted to keep listening and a certain number did not; the reasons offered by the inquirer for these statistics leaning one way or the other could only be speculative; such binary statistical data is of little use to the I/R project in isolation.⁷² It is the addition of the question ‘why?’ that reveals the most interesting and pertinent data; what it is *about* the experience of the work that makes the listener want to turn it off or to keep listening, in *their* opinion – a participant centred, qualitative approach.

The openness of the listener response questionnaires coupled with the use of the question ‘why?’ where appropriate, results in a self-reflective listening experience, generating data that is the result of the listener’s self-reflective interpretation of his/her listening experience. This approach has implications in terms of data analysis. The actual, fundamental listening experiences are taking place in the mind of the listener and so are not externally observable by the inquirer. These lived experiences cannot be studied directly. I can only study representations of experience: verbal and written texts, stories and

⁷² Statistical analysis of data will be used where appropriate and qualitatively contextualised where appropriate.

narratives. I have no direct access to the inner psychology and inner world of meanings of the reflexive subjects. (Denzin & Lincoln, 2003: 573) My investigation of the listening experience involves analysis of self-reflective written descriptions of listeners' experiences of RWE/A works. That is, the verbal text that listeners use to explain what they believe they are hearing and what they are thinking about while listening, through the context of the testing situation and the questions asked in the questionnaires.

2.1.4 Relevant protocols from action research methodology – the potential for establishing a feedback loop.

The investigative methodology of the I/R project is incorporating elements of action research (AR) methodology. Besides establishing a rigorous pertinent science, producing knowledge within an academic context, AR also pays attention to ordinary people's knowledge. It questions fashionable meta-narratives; and discards learned jargon so as to communicate with everyday language [...] (Borda 2001: 28) The main criterion of AR "should be to obtain knowledge useful for what [are] judged to be worthy causes...and the hopeful discovery of other types of knowledge from unrecognised worthy sources like...the common folk." (Ibid.)

In chapter 1, I proposed that a similar shift has been occurring in emerging discussions and practices in E/A art music research. The notion of the aloof observer in E/A art music research is being questioned, and more participatory research appears to be on the horizon. (Denzin & Lincoln, 2003: 29-30) Orlando Fals Borda's solution to the aloof observer shortcoming is to discover a way to bring about a convergence between popular thought and academic science in order to establish a more complete and applicable knowledge. (Borda 2001: 28) It is this convergence and sharing (feedback) of insider/outsider knowledge that is being facilitated through the I/R project's methodology. It has been designed to bring the often separate spheres of information (composer and listener) together, to study them as an interactive and intersubjective communicative relationship. The following diagrams present a simplified structural model of the feedback potential created by the application of the I/R project's dramaturgic aesthetic methodology.

FIGURE 4

ESTABLISHING FEEDBACK (a).

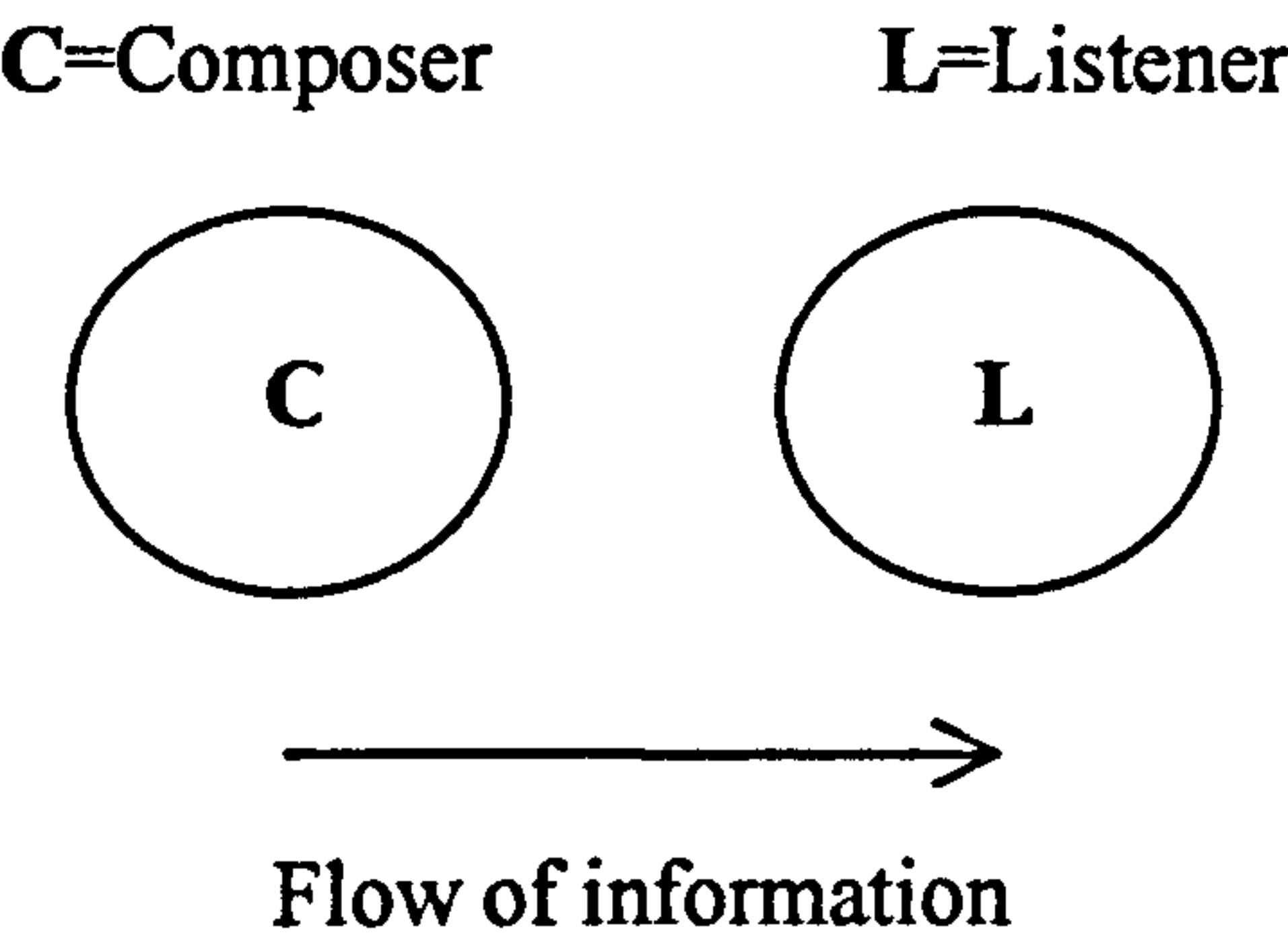


Figure 4

In Figure 4 the two actors exist as isolated islands, one concerned with the production of the work and the other concerned with the reception of the work. The composer creates the work, the listener hears and interprets the work. The listener’s interpretative process is an internalised process and is not usually revealed to the composer of the work; and so the flow of information moves in one direction from maker to taker.

FIGURE 5

ESTABLISHING FEEDBACK (b).

C=Composer M=Methodology L=Listener

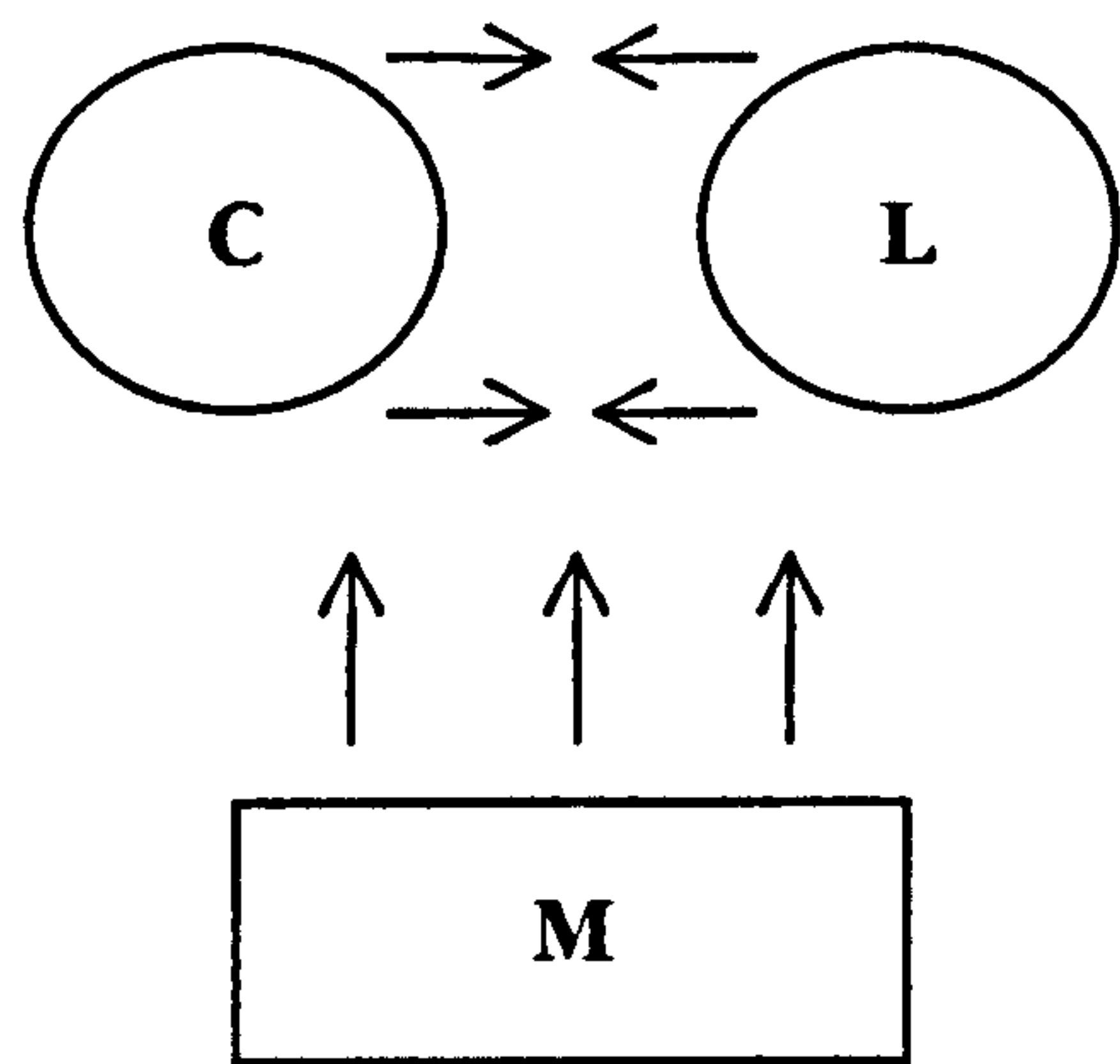



Figure 5

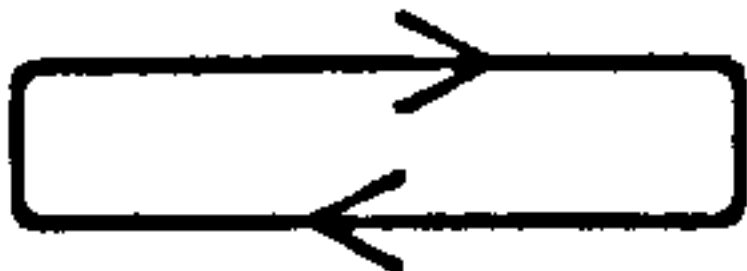
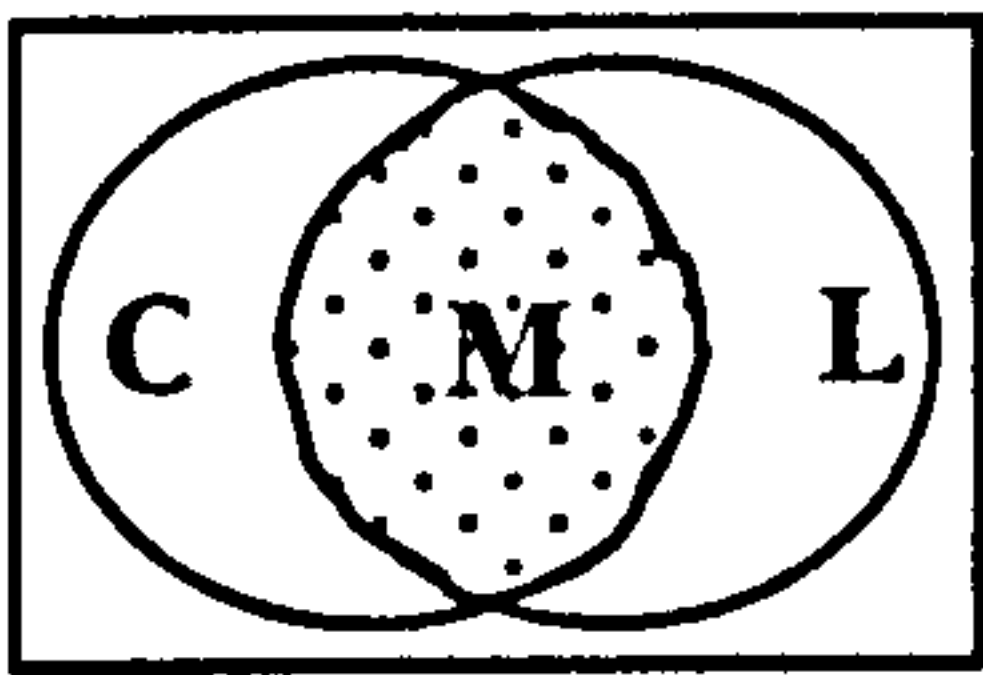
In Figure 5 the application of the I/R project’s dramaturgic aesthetic methodology brings the two islands of isolation (composer) – (listener) together as an intersubjective relationship. This application results in:

FIGURE 6

ESTABLISHING FEEDBACK (c).

C=Composer M=Methodology L=Listener

 = Area of feedback



Flow of information

Figure 6

In Figure 6 the application of the methodology on to the existing model (Figures 4 and 5) brings expressive intention and aesthetic appreciation together (the shaded area) which is the point at which the potential for establishing a feedback loop occurs. A feedback loop is established when listener response information is presented to the composer and the composer reacts to this information. This may then lead to triangulation, the incorporation of acquired feedback evaluation of one's own work. (Landy, 1999: 63) This is a system whereby the composer evaluates her/his work relative to the listener response data, for example, areas in which communication is demonstrated to be weakest, and actively uses this information to address the issues revealed by the response data. This is of particular relevance when considering the potential for establishing greater accessibility, appreciation and dissemination of RWE/A music – it is important to know what works and what does not.

2.2 Designing the testing methodology.

Having established a general, theoretical operational method (category B in the methodological schema⁷³), the subsequent phase of methodological development involved the practical designing of test procedures and methods of data collection (categories C and D).

This developmental process involved the following stages:

- 1) Establishing ethical procedures required for any research involving the testing of human subjects.
- 2) Establishing a group of E/A art music composers to provide test compositions.
- 3) Selecting appropriate test compositions from those provided by the volunteer composers.
- 4) Designing a composer intention questionnaire to solicit dramaturgic information.
- 5) Establishing and organising listener testing participants.
- 6) Designing listener testing questionnaires.

⁷³ See chapter 2.1, Figure 3.

- 7) Designing listener testing procedures.
- 8) Conducting a pilot project to beta-test the methodology.
- 9) Analysing key results of the pilot project, the extent to which the data is relevant to the goals of the research, and making appropriate changes to the data collection methodology based on feedback from composers, listeners and data.

2.2.1 Ethical consideration.

This section concerns stage one of the methodological development process: establishing ethical procedures required for any research involving the testing of human subjects.

Ethics guidelines define the I/R project as research that involves the testing of human subjects.⁷⁴ Ethical procedures, those pertinent to general ethical practices and to the institution at which the research is taking place, have therefore been followed.

The general code of ethics concerning participatory research offers the following four guidelines:⁷⁵

- 1) Informed consent – Research subjects must participate in any study on a voluntary basis. This choice to volunteer should be based on full and open information regarding the research: the testing methods, the duration of participation and the purpose of the research.

There were certain problematic issues concerning the extent to which the goals of the research were explained to the listener testing participants. Andra McCartney found similar problems in her I/R research.

I was concerned that if I came into a situation and gave a great deal of initial information about...the context of soundscape composition, listeners might be more likely to respond to my concerns and stated interests, making their written responses less open. (McCartney, 2000a: ch.11.)

⁷⁴ See appendix II.

⁷⁵ See (Denzin & Lincoln, 2003: 217-219)

In the I/R project it was also important to contextualise the research for the listener participants to some extent, but without divulging information that excessively influenced their responses. Participants were informed that the research is investigating the listening experience, seeking to understand how listeners respond to various compositions. The word ‘composition’ was chosen instead of the word ‘music’ as, during the pilot project,⁷⁶ some inexperienced listeners when confronted with works that did not conform to their notion of what ‘music’ was, offered critical responses influenced by their belief that such works were not music. A consequence of this was the generation of response data focussed on the music/not music issue rather than on the listening experience. The I/R project is not concerned with investigating the issue: are E/A art works music?

2) Deception – Social science research ethics uniformly oppose deception or deliberate misrepresentation. Concerning my investigation into the influence of a work’s title on the listening experience I had initially considered the use of a deceptive practice as a means to establish a set of control data. This involved replacing the title of a particular work with a fictitious one to understand the extent to which the title leads the interpretation, the extent to which the sounding content of the work, despite its apparent dissimilarity with the fictitious title is still interpreted through the context of the title. Despite the ethical reasons for rejecting such an approach, data emerging from listener testing has demonstrated that the influence of the title on the listening experience can be adequately investigated through non-deceptive testing methods.⁷⁷

3) Privacy and confidentiality – Confidentiality and the protection of participants’ identity is paramount in participatory research. All data should be publicly released through a shield of anonymity. All participants in the I/R project have been informed that their identities will be protected.⁷⁸

⁷⁶ For more on the pilot project see chapter 2.3.

⁷⁷ Indeed, a slight flaw in the methodology has generated interesting data in this particular area. For results concerning the influence of the title on the listening experience see chapters 3.1.2, 3.2.2, 3.3.2 and 4.2.1.

⁷⁸ The composers of the test works have given permission for their names to be used.

4) Accuracy – The production of accurate data is a principle of all research. My belief is that the voices of all participants be allowed to speak through the thesis without excessive interpretative mediation on the part of the researcher, this has resulted in the development of a transparent methodology. This creates an open and accessible thesis, which allows the accuracy of data both in terms of methods of data generation and analysis to be validated by the reader.

The research participation agreement.

To satisfy regulations concerning the testing of human subjects, each participating composer and listener was provided with a two-part ‘Research participation agreement’ document.⁷⁹ Each participant was informed of the details of the research: the goals of the research, the structure and function of the methodology, their expected involvement and their rights. All participants were also given the opportunity to pose any questions that they had about the project.

I did encounter one particular problem in relation to research degree procedures of De Montfort University.⁸⁰ Section 4.2.2 – Ethical issues in Human Research, reads in part, “Ethical practice...requires that participants, at a minimum...volunteer freely without inducement.” I sought to involve members of the public as listener testing participants in the inexperienced user group.⁸¹ To investigate the potential for including this particular group, I informally questioned members of the public about volunteering for such a project. A significant majority of those questioned stated that they would find it easier to volunteer if there was a financial incentive offered for their participation. Research degree, ethical practice regulations categorise this financial incentive as an *inducement to volunteer* and would therefore be an ethically unsound practice. This was a difficult situation considering that traditionally the use of financial incentives has been commonplace in many research endeavours.

⁷⁹ See appendices III and IV.

⁸⁰ De Montfort University is the institution at which the research took place.

⁸¹ Three user groups are being studied: inexperienced, experienced and highly-experienced listeners. For more on these groups, see chapter 2.2.5.

Initially, this problem limited the extent to which I could involve the public as listener testing participants. However, further reflection on the use of financial inducement revealed a potential problem with such practice that became a more fundamental issue than the ethical one. Offering a financial incentive to participants may result in a situation where the participants only attend the listener testing sessions to receive payment, putting very little effort into engaging at an appropriate level with the testing procedure. Therefore, not only is such practice of financial inducement problematic from an ethical perspective, it is most damaging in that it can result in the generation of bad and perhaps unusable data.

This issue was resolved by involving general public participants who were happy to participate without financial compensation and who were legitimately interested in taking part and actively contributing to the research. To make up the numbers in the inexperienced user group I chose to use Further Education (FE)⁸² students as listener testing participants. The most responsive FE colleges to calls for research participants tended to be those running music-based courses, an obvious relationship as the I/R project is a music-based study. The testing sessions were incorporated into the students' timetable as an educational supplement.⁸³ This approach had an unexpected result, as it demonstrated the pedagogic potential inherent in the listener testing methodology; a potential not realised in the initial formulation of the research.⁸⁴

This particular group of musically knowledgeable participants (FE college music students) posed a further problem, in that although the participants had not come into contact with, nor had any existing knowledge of RWE/A music, they were still engaged in the study of music and were therefore in possession of listening strategies that were *educationally* focussed on musical appreciation. To address this issue I have established a balance in the inexperienced user group between non-musically educated (58% of group)

⁸² Further education (FE) in the United Kingdom normally begins at age 16 and usually excludes university education. It is primarily taught in FE colleges and adult learning centres. Higher education (HE) in the United Kingdom is situated primarily in universities and institutions offering academic degrees, it includes undergraduate and postgraduate levels. (Source - <http://www.wordiq.com>)

⁸³ Attendance at these sessions was not enforced, participants attended on a voluntary basis with no punitive action being taken to those who did not attend.

⁸⁴ The pedagogical potential of the methodology is not investigated in this project, it does however remain an interesting potential for future investigation.

and musically educated (42% of group) participants. Throughout the thesis when quoting listener responses I state whether the response was from a musically educated or non-musically educated listener.⁸⁵ Interestingly, results of listener response data analysis indicate that there is little difference in terms of the listening experience between non-musically educated and musically educated listeners in the works used as test material.

2.2.2 Test composition selection procedures.

This section concerns stages two and three of the methodological developmental process: establishing a group of E/A art music composers to provide test compositions and selecting appropriate test compositions from those provided by the volunteer composers.

It was important that I selected works that were unknown to all listener participants in the study. This was important in terms of capturing the experientially un-compromised listening experiences of listener testing participants. This was not an issue for the inexperienced listeners, who would be hearing a particular work for the first time whether the work was well known in E/A art music circles or not. But this was not so for the experienced and highly-experienced user groups who, through their educational experiences may well have come into contact with many of the known works.

A preliminary criterion for the compositions to be used as test material was formulated. This criterion read: 'compositions to be used as test material should contain or be perceived to contain real-world sound references'. It was important at this stage of development to establish such a criterion, as in order to solicit test compositions I needed to provide the composers of the compositions with information explaining what type of work was required. On further reflection I found that the initial established criterion was inadequate when considered in terms of developmental stage 4 – designing a composer intention questionnaire. Investigating the communicative continuum through a dramaturgic aesthetic methodology requires the use of test compositions in which there is an intention to communicate something concrete to the listener. This consideration resulted in the test

⁸⁵ See *organising listener response data during analysis* section in chapter 2.2.5.

composition criterion being revised to read: compositions to be used as test material should contain or be perceived to contain real-world sound references and should have been created with the intention of communicating something to the listener.

Establishing well-defined criteria for test compositions was important, as the call for composer volunteers was distributed over the internet. This was a factor requiring further reflection as to what impact such an approach would have on the development and design of the methodology – the principal issue being one concerning time. To announce a call for E/A art works, in general unspecific terms across such a broad international medium could result in hundreds of responses, requiring hours of analysis in terms of selecting appropriate test material: listening, comparing and contrasting all of the submitted works. This issue resulted in a secondary level of submission control being added to the solicitation criteria; composers were asked to submit a maximum of three compositions. This structured, criteria-based approach resulted in the composers themselves performing a large part of the initial selection process, reflecting on their own material and selecting the most appropriate works themselves. This reduced the time that I would have to spend on the selection/rejection process.

Providing such ‘framed’ criteria resulted in the majority of submissions being to a lesser or greater extent possible for use as test material. In total, forty-two composers responded to the call for composer volunteers, most of whom expressed great interest in the project (particularly its access and widening participation investigation) demonstrating that some composers are indeed interested in such issues.⁸⁶ The total number of submitted works from this group was fifty. A preliminary analysis was made of the submitted works, removing those that were deemed most inappropriate in the context of the study. Many of these contained a significant level of sound abstraction and complexity, and based on their communicative intent (revealed through the track notes), required a significant amount of E/A art music experience (in particular, specialised listening practices based on knowledge of compositional processes and techniques) to access and appreciate the content. This initial

⁸⁶ The following nationalities were represented: UK, 15 responses; Canada, 6; USA, 5; France, 3; Sweden, 3; and one each from Colombia, Germany, Greece, Holland, Ireland, Italy, Japan, Korea, New Zealand, Turkey.

selection process culminated in a set of twenty works from thirteen composers, each of which conformed to the selection criteria and the context of the study. Each of the thirteen composers was given a CIQ to complete. Eleven of these composers returned completed questionnaires covering fifteen works.

2.2.3 Designing the composer intention questionnaire.

This section concerns stage four of the developmental process: designing a composer intention questionnaire to solicit dramaturgic information.

The CIQ has been designed in such a way as to allow the composers to describe their motivations, inspirations, compositional procedures and communicative intentions as freely and as openly as possible (albeit in response to a series of set questions). It solicits prose-based responses rather than those of a check-box and/or multiple choice type. The data solicited through CIQ is essential for my investigation into the relevance and potential usefulness of dramaturgic information in relation to the issues of accessibility, appreciation and widening audience participation – in particular, the access theory.

To ensure that the context of certain questions in the CIQ is understood, some are accompanied by a clarifying text, this information takes the form of (bracketed text) beneath the main, upper case questions on the questionnaire. The following example consists of a question by question explanation of how the data being solicited by the CIQ relates to the research goals of the I/R project (note that some questions have been demonstrated to be more useful than others).

Note: *Italicised text* is that which appears on the functional questionnaire. [Square bracketed text] is a contextualising commentary on the various questions and does not appear on the questionnaire itself.

COMPOSER INTENTION QUESTIONNAIRE

Please complete the following:

Name:

Date of birth (dd/mm/yy):

Sex (m/f):

Ethnic Origin:

Country of permanent residence:

[The age, sex and ethnic origin of the composer in terms of this particular research project has not been found to be relevant; its inclusion is therefore unnecessary in the present context.]

Composition Title:

Sound source(s)/source material

(i.e. The place(s) or object(s) from which the sound(s) were collected/recorded, e.g. rocks, railway station etc; and a list of each sound object that was used, e.g. the sound of rocks being scraped together, the sound of trains etc.) :

[Presenting this data to a listener may provide something to hold on to (recognisable sound types) based on knowledge of the original sources and causes of the sounding materials.]

Intention Questions

1) WHAT WERE YOUR INTENTIONS CONCERNING THIS PARTICULAR COMPOSITION? (What are you attempting to communicate to a listener? Please be as specific and detailed as possible.)

[This question solicits data concerning the communicative intention of the work. An important data set in terms of dramaturgic SHFs that can be offered to listeners to assist their engagement with the work. It is also important as comparative data to be analysed against listener response data, to determine the extent to which intention and reception are meeting. Responses to this question were also factored into the test composition selection process, to establish the extent to which there is a communicative intention in the work and how this particular intention is related to the test composition selection criteria. As such, the final decision as to which works were to be used as test material was based in part on the composers' responses to this particular question.]⁸⁷

⁸⁷ See chapter 2.2.4.

2) WHAT METHODS ARE YOU USING TO COMMUNICATE THESE INTENTIONS TO THE LISTENER? (Are you relying on the recognisable aspects of the sounds to communicate meaning? Are you using specific sonic manipulations to communicate these meanings?)

[The data solicited by this question is relevant to the access theory. This data can be used to reveal the communicative methods that are best suited to establishing access in terms of the communication of a work's intentions. For example, is the use of recognisable sound as a communicative factor more, less or equally influential in terms of access, the interpretation of meaning and the stimulation of an active listening experience, in comparison to the abstracted, manipulated, transformed and musically organised sounds within the work?]

3) IS THERE A NARRATIVE DISCOURSE INVOLVED?

(The word narrative is not solely meant to imply a text-based narrative, a story, but includes sound/structure/spatial/temporal-based narrative discourses.)

IF SO, HOW WOULD YOU DESCRIBE THIS NARRATIVE?

[The collection of narrative data is a vitally important aspect of this research in that in some cases the communicative aspect of RWE/A music is structured and delivered by way of a consciously composed narrative – in some instances such narratives evolve independently of any conscious compositional choice and reveal themselves to the composer during the act of composition. In some cases, the meanings of a work are being communicated through this particular narrative. It is also important to bear in mind that this narrative is not always communicating from a solely image-based or text-based perspective, but may indeed involve a more formal musical approach to the temporal structure of the sonic elements in terms of gesture, dynamics, temporal evolution and so on.⁸⁸ Collecting data concerning the composer's articulation of their work's narrative content may also be useful when investigating the potential for using such information regarding the exposition of intended narrative as a further tool of access.]

4) HOW IMPORTANT IS IT THAT THIS NARRATIVE IS RECEIVED AND WHY?

⁸⁸ See question 2 above. Such terminology (gesture, dynamics, temporal evolution) will not necessarily be known by an inexperienced listener but the identification of such parameters may still be revealed through the analysis of her/his responses.

[This question seeks to solicit data concerning the importance of the reception of the work's narrative content from the composer's perspective, to what extent does the composer require that the narrative is received in order to feel confident that the most appropriate interpretation of the work has occurred?]

5) WHERE DID THE INSPIRATION TO CREATE THIS PARTICULAR COMPOSITION COME FROM?

(What influences caused you to initially decide to create this particular composition?)

[This question seeks to investigate the different forms of inspiration at work in the chosen test compositions and the extent to which inspiration featured in the compositional process as a whole. I am investigating if such information offers a further strand of accessibility, particularly in terms of presenting the composer as a real person reacting to certain real-world stimulus by way of an inspired desire to express their experience to others through the RWE/A work – the concept of 'shared listening experience'.]

6) TO WHAT EXTENT AND HOW, DID YOUR INITIAL INTENTION CHANGE AS THE COMPOSITIONAL PROCESS PROGRESSED?

[This question solicits data concerning the influences that composed sound organisation, juxtaposition and transformation has on the composer and the communicative direction of the work during the compositional procedure. As composition and organisation of the sounds occurs it may be that certain ideas, perhaps new ideas, unrelated to the initial intentions are suggested that alter the communicative direction of the composition or add extra communicative elements.]

7) WHAT INFLUENCED THESE CHANGES OF INTENTION?

[This question solicits the 'why' factors concerning the previous question.]

8) IS IT IMPORTANT TO YOU THAT YOUR COMPOSITION IS LISTENED TO WITH YOUR INTENTIONS IN MIND AND WHY?

[This question is *not* related to question 4 – which concerns narrative reception. It seeks to discover the extent to which the composer feels that their communicative intentions should be used as something to hold on to.]

9) IS/ARE THERE SOMETHING(S) IN THE COMPOSITION THAT YOU WANT THE LISTENER TO HOLD ON TO AND WHY? (E.g. a recognisable sound, structure, narrative etc.)

[This question seeks to discover if providing the listener with a recognisable ‘something’ is a conscious tactic of the composer. And/or if the composer relies on such aspects to deliver their communicative intentions with as little chance of misinterpretation as possible.]

10) AT WHAT POINT IN THE COMPOSITIONAL PROCESS DID YOU DECIDE ON A TITLE FOR THE PIECE?

[This question seeks to discover the differences between two potential approaches to deciding on the title of a work. The title may exist before the work’s production. If so, how might this influence the compositional approach? Or the title may be decided on during or after the works completion and so, why did the composer choose the title that s/he did?]

11) HOW MUCH DO YOU RELY ON THE TITLE AS A TOOL WITH WHICH TO EXPRESS YOUR COMPOSITIONAL INTENTIONS AND WHY?

[Both questions 10 and 11 relate to the SHF, but in this case – in contrast to question 9 – in terms of extrinsic elements (elements outside of the work’s sounding content). The data solicited here will be useful in highlighting how important the composer feels the title is in terms of providing the listener with something to hold on to. Such titles may provide an idea, an image and/or a potential interpretative direction that may be directly related to what the composer intends to communicate, prior to the listener engaging with the sounding content of the work.]

12) DO YOU RELY ON ANY OTHER ACCOMPANYING TEXT, IN THE FORM OF PROGRAMME NOTES, TO OUTLINE YOUR INTENTIONS PRIOR TO THE LISTENER’S ENGAGEMENT WITH THE COMPOSITION AND WHY?

(Please list/attach the text that accompanies your composition here.)

[More data regarding the SHF. This data will highlight why composers provide such information.]

13) WHO IS YOUR INTENDED AUDIENCE FOR THIS COMPOSITION?

(E.g. All audiences, the electroacoustic community, etc.)

14) HOW IS YOUR COMPOSITIONAL PROCESS INFLUENCED BY THE INTENDED

AUDIENCE, IF AT ALL?

[Data from questions 13 and 14 will assist the investigation into how the intended audience influences the composer's compositional methods.]

15) HOW IMPORTANT IS IT THAT THE TECHNICAL PROCESSES INVOLVED IN THE COMPOSITION ARE RECOGNISED BY THE LISTENER AND WHY?

16) DO YOU THINK THAT DETECTABLE TECHNICAL PROCESSES ARE AN INTEGRAL ASPECT OF THE COMPOSITION'S OVERALL AESTHETIC?

(Is it important in this composition that the listener is aware of the technical processes?)

IF YES, WHY?

IF NO, WHY?

[Data solicited through questions 15 and 16 is to investigate particular listening practices in relation to the experienced 'specialist' audience, an audience who may include the appreciation of technical virtuosity in their listening strategy. An important question related to this particular set of data being; do the composers want their audience to appreciate their use of sound manipulation, transformation and organisation techniques? To what extent are these factors relevant to an inexperienced audience in appreciating the work?]

17) UNDER WHAT LISTENING CONDITIONS IS YOUR COMPOSITION INTENDED TO BE HEARD AND WHY?

(In stereo, multi-channel, through headphones, in a concert hall, diffused etc.)

[This set of data relates to questions of accessibility, seeking to discover if consideration towards 'all listener' access is being taken into account in the composition. A work created to be performed in a diffused concert setting is in most cases only experienced by the 'specialists'. The non-specialist, at home listener, will only have access to a home stereo (or in some cases 5.1 surround sound) hi-fi playback.]

18) IF YOU INTENDED FOR YOUR COMPOSITION TO BE DIFFUSED OVER A MULTI-CHANNEL SYSTEM, HOW DID THIS INTENTION AFFECT YOUR COMPOSITIONAL TECHNIQUES?

(In what ways did you structure the composition and its contents in order for it to be best heard in a diffused performance?)

19) IF YOU INTENDED FOR YOUR COMPOSITION TO BE DIFFUSED OVER A MULTI-CHANNEL SYSTEM, IN WHAT WAYS DO YOU EXPECT THE LISTENING EXPERIENCE TO BE CHANGED BY A STEREO PERFORMANCE OF YOUR

COMPOSITION?

[Questions 18 and 19 are related to question 17, in that if the composer intends the work to be accessible to the ‘specialised’ audience by way of a concert setting yet also intends the work to be accessible to a non-concert going public, how is the work composed, adapted or re-mixed, if at all, based on these multiple situations? And what effect will this particular means of playback have on the listening experience in the composer’s opinion?]

2.2.4 The final selection of test works.

The final process of test composition selection involved choosing the appropriate number of works in relation to several factors.

- 1) The number of testing sessions required to test the compositions on all user groups.
- 2) The amount of data that would be generated by the number of sessions required to test the compositions on all user groups.
- 3) Establishing an appropriate amount of content variation in the final selected works in order to understand how access, appreciation and listening experiences are influenced by certain variations in content. This study involves an investigation of how listeners respond to abstract sound, in particular inexperienced listeners’ responses to abstract sound. Therefore the extent to which abstraction featured in test compositions was an important consideration.

To address the issue of content variation, the submitted works were divided into categories based on several listenings carried out by myself. These involved repeated comparative listening in order to assess the variations between the submitted works.

Each of the works was placed into one of three categories:

- a) Location soundscape.
- b) Soundscape with sonic abstraction.
- c) Abstract referential.

The location soundscape work (a) presents the listener with aural experiences related to a particular location or locations and/or is focussed on particular sonic occurrences within a particular location. There is also little abstraction, transformation and manipulation of the sounds.

The soundscape with sonic abstraction approach (b) involves the use of sounds and/or sounding objects related to a specific location or locations, sounds that are recognisable as such. Yet it also involves a transformational and abstract compositional element involved in exploring the intrinsic and composed musicality of the sounds, but not into total abstraction. The recognisable identity of the sounds remains the primary communicative factor in the work. This particular statement demonstrates the importance of the CIQ in terms of preventing inquirer speculation as to the communicative intention of the work; this primary communicative factor is that being intended by the composer.

Abstract referential works (c) do not contain real-world sounds as such, in terms of concrete, recognisable sounds directly related to their source. The sounding content has been abstracted through manipulation and transformation. However, despite this abstraction there is maintained a sense of realness within the work, an imaginatively interpreted real-world quality. These works stimulate imaginative interpretations of the abstract content that are based on real-world references.

The incorporation of this particular type of abstract work as potential test material for the project came about as a result of dramaturgic information provided in the CIQ. Initially such abstract works were classed as inappropriate due to their excessive abstraction and as such, lack of real-world elements for the listener to hold on to; in most cases, this rejection was appropriate. However, the communicative intentions of one particular abstract work revealed an intention to suggest a real-world context to the listener and to subsequently encourage the listening imagination towards creating an interpretation based on this real-world context. Such work was in line with the criteria of the project, predominantly in terms of its intention and less so in its sounding content.

I felt that the use of a sonically abstract work that had an intention to stimulate the imagination to create images based on real-world elements would provide interesting data concerning access, appreciation and the communicative relationship between composer and listener. It was also useful for investigating how dramaturgy can be used as a tool of access; does dramaturgic information help the listener organise abstraction into something meaningful? If the data solicited through the project demonstrates that abstraction does not necessarily stifle engagement and appreciation for the inexperienced listener, then there may be a potential for disseminating certain abstract works (those with communicative intentions beyond technological virtuosity) to a broader audience.

Three works were chosen as test material, one from each category. Work (a) titled *ABZ/A* by Pete Stollery (UK), (b) *Deep Pockets* by Larisa Montanaro (USA) and (c) *Nocturne* by Simon Atkinson (UK). Although a rather small selection (compared to the number of works initially submitted), three works were considered manageable in terms of the number of listener testing sessions required to collect the appropriate amount of data from the test compositions and to analyse this data within the time limitations imposed by PhD regulations.

2.2.5. Designing the listener testing methodology.

This section concerns stages 5, 6, and 7 of the developmental process: establishing and organising listener testing participants, designing listener testing questionnaires and listener testing procedures.

User groups.

Listener testing participants have been divided into three ‘user groups’.

1) *Inexperienced listeners* – listeners who have no knowledge of E/A art music, e.g., the general public. In order to ensure that this group have not come into contact with E/A art music before, several approaches have been employed.

- a) Inexperienced participants are asked if they know what E/A compositions are and if they have knowingly listened to any before. (I avoid describing or defining E/A compositions for any inexperienced listener prior to listening, even when asked, explaining that divulging such information may compromise the testing.)
- b) Listeners' written comments as to what music they listen to, collected in the real-time listener response questionnaire (RTQ), are examined to identify if these listening preferences contain works that are of the type being tested.
- c) After completing the testing session, inexperienced listeners are asked if they have listened to anything similar before.
- d) Listener responses are examined to discover if terminology that implies knowledge of the genre is being used.

There have been no cases where inexperienced listeners have knowingly or unknowingly listened to the types of RWE/A works being used as test material.

The inexperienced core user group comprises twenty participants who have listened to all three test works. Thirteen are non-musicians and seven are musicians. The musician participants were all Further Education (FE) students from two colleges, all of whom were studying popular music and music technology.

The decision to establish core user groups was made after several sessions had been conducted with inexperienced listeners. Data from these preliminary sessions has been included in the inexperienced supplemental user group data set. The use of core user groups provides a controlled consistency in the testing and is beneficial in terms of comparative analysis of the various data sets, particularly when interpreting statistics.

Inexperienced supplemental user group.

This group includes listeners who attended the first series of testing sessions; those following the changes made after the pilot project and before the decision to establish core groups was made. It includes core group listeners who dropped out of testing before having completed all three works (listeners who had dropped out of the project were contacted and most agreed that their data could still be used in the project if required). It also includes

listeners who generated bad data on at least one of the three works and so could not be included in the core group.⁸⁹

The inexperienced supplemental user group comprises thirty-nine listeners who have been tested on one of the three test works. Thirteen were tested on *ABZ/A*, thirteen on *Deep Pockets* and thirteen on *Nocturne*. Each group comprised seven non-musicians and six musicians. Twenty-one listeners in the inexperienced supplemental user group were non-musicians and eighteen were musicians.

In total (core group participants and supplemental group participants combined⁹⁰), fifty-nine inexperienced listeners were tested. Thirty-four were non-musicians (58% of total) and twenty-five were musicians (42%) Testing for this group resulted in ninety-nine completed listener response questionnaires.

2) *Experienced listeners* – listeners who have a fundamental knowledge of what E/A art music is; who have heard and perhaps composed E/A art music, e.g., Undergraduate contemporary music students.

The experienced user group comprises twenty participants who have listened to all three works. These participants are all final year undergraduate students at De Montfort University in Leicester, studying music technology. Most have a popular music background yet have experienced E/A music in academic, art music and popular music contexts. This group produced sixty completed listener response questionnaires.

Initially, twenty-four experienced participants agreed to take part in the testing. Of these twenty-four, sixteen completed testing for all three works. Eight withdrew their participation. There were no instances of bad data from this group. In order to bring the number of core group participants in both the inexperienced and experienced groups up to twenty participants, more listeners were brought in to the project; two inexperienced and

⁸⁹ The treatment of bad data is discussed in chapter 2.3.3.

⁹⁰ The method used to present the results of data analysis for these two inexperienced user groups is discussed in chapter 3.

four experienced. These extra listeners successfully completed the testing and so were added to the core groups.

3) *Highly-experienced listeners* – Listeners with a developed knowledge of E/A art music, e.g., Postgraduate students and beyond.

The highly-experienced user group consists of eight participants who have listened to all three works. All highly-experienced listeners are at postgraduate level or beyond, they are all active composers of contemporary music and have a developed, specialised knowledge of E/A art music. This group generated twenty-four completed listener response questionnaires.

The highly-experienced user group is used primarily as a control group, providing data concerning the extent to which ‘specialised’ knowledge affects listening strategies and appreciation. The question of accessibility for this particular group is not an issue as all participants actively choose to listen to E/A art music. Their preferences and the reasons for such a preference in terms of the three test works will be indicated where appropriate. This group was also the most difficult group to organise in terms of establishing a core group of listeners who listened to all three works. Commitments to other projects tended to hinder these listeners in terms of giving their full commitment to participating in the project.

In total, eighty-seven individual listeners took part in the testing, generating three hundred and sixty-six listener response questionnaires. These figures demonstrate the importance of establishing a manageable number of test participants and test works when using the I/R methodology.

Organising listener response data during analysis.

Each listener testing participant has been given a listener identification code. These codes are an efficient means of organising and analysing data and will be used when discussing

and offering verbatim examples of listener responses.⁹¹ The code indicates which user group the listener belongs to, whether they are musically educated or not and which of the three works they have listened to.

A listener identification code consists of a participant number (1, 2, 3, etc.), a user group identifier that can be either InEx (inexperienced user group), Ex (experienced user group) or HiEx (highly-experienced user group);⁹² followed by (/) NM (non-musician) or M (musician), the NM category is only applicable to the inexperienced user group as all experienced and highly-experienced participants in the project have been musically educated and/or are active composers. The NM or N categorisation is sometimes followed by -AB, -DP or -NOC (these letters indicate the test work that has been listened to by a particular participant; AB = *ABZ/A*; DP = *Deep Pockets*; NOC = *Nocturne*). For example, listener category designation 1InEx/NM-NOC indicates that this is participant one, from the inexperienced user group, s/he is a non-musician and has only listened to the work, *Nocturne*. A listener designation without the modifier -A, -DP or -N indicates that the listener has been tested on all three works and so is a core group participant. For example, designation 4InEx/NM indicates that this is non-musician, participant four, from the inexperienced core user group.

2.2.6 Listener response questionnaires.

The principal focus of listener response questionnaire design concerned devising a system that would allow the listener to freely express his/her thoughts (whatever was coming to mind) during the listener testing session, but one that also generated a data set through which to address the more defined and focussed research questions. Two questionnaires have been developed to satisfy the dual data requirements: a real-time listener response questionnaire (RTQ) and a directed listener response questionnaire (DQ).

⁹¹ The use of these codes begins in chapter 3.

⁹² These user group abbreviations will be used for the remainder of the thesis, except for headings.

*The real-time listener response questionnaire.*⁹³ This questionnaire is designed to solicit the thoughts, images and ideas that are coming to mind as the listener listens to the work – hence the term real-time. It functions much like a note pad, where the listener can jot down her/his immediate thoughts. Using a questionnaire that asks a series of *specific* questions to be answered during the listening would require that the listener interrupt his/her listening experience as s/he reflects on the question in hand, this would inhibit continuous listening in real-time. The RTQ is used to keep the listening experience as natural as possible under the circumstances. It is accepted that the testing procedure itself places the listeners into a relatively unnatural and controlled listening situation; for example, when listening to works we do not usually write about our listening experiences during listening. The RTQ is divided into three discrete sections corresponding to the three separate listenings that take place during a testing session.

The directed listener response questionnaire. This questionnaire asks directed questions in a way that encourages listeners to expand on their initial notes made in the RTQ during the first listening only. Although directed, these questions have been kept as open as possible so as not to steer the listener in any specific *interpretative* direction. It avoids asking questions that force the listener to interpret the work in a particular way.

In its first version the DQ consisted of nine questions.⁹⁴

Note: *Italicised text* is that which appears on the functional questionnaire. [Square bracketed text] is a contextualising commentary on the various questions and does not appear on the questionnaire itself.

⁹³ The final working version of this questionnaire can be found in appendix VI.

⁹⁴ The final working version of this questionnaire can be found in appendix VII.

The Intention/Reception Project: Directed Questionnaire

(Candidates may refer to their initial listening notes when answering the following questions.)

PRINT YOUR NAME:

1) What sounds did you recognise in the composition?

[This data will demonstrate the extent to which the process of sound recognition (source/cause recognition) is being used by the listener to aid in making sense of the work's sounding content. A comparison between the sounds recognised and the extent of listener appreciation may be demonstrated to be a significant factor in terms of access and appreciation.]

2) If you heard sounds that were unnatural, please describe (if you can) one/some/any of them?

[This data will assist in understanding the extent to which abstract sounds are potentially integrated into the interpretative aspects of the listening experience through an imaginatively formulated real-world-based description.]

3) Did the composition conjure images/pictures in your mind?

If so, please describe them?

[This data may reveal the extent to which the sounding content stimulates image-based meanings.]

4) Did the composition suggest a narrative, be it a story or any other time-based discourse?

If so what might this concern?

[Analysis of this data will seek to reveal the extent to which the listener forms a linear, communicative gestalt from the sounding materials. It can also be used to reveal the extent to which a listener's narrative interpretation corresponds to that suggested by the composer.]

5) Did the composition seem to convey any emotion(s)? And/or did you have any emotional responses to the piece?

If so, please describe them?

[This data is important in that emotional responses may well have an affect on the interpretation of meaning.]

6) What aspects, musical or otherwise did you find most engaging in the composition?

[This data relates to access, appreciation and the SHFs, in that statistical analysis of data from this question may reveal the most engaging aspects of the particular work; comparison with the other test works may reveal similarities in the engaging aspects.]

7) What aspects, musical or otherwise did you find least engaging in the composition?

[As above.]

*8) Did the composition make you want to keep listening or was it uninteresting?
Why?*

[A key question regarding access and appreciation. Statistical analysis of data can be used to indicate the extent to which the user group as a whole found the work engaging or not. The inclusion of the ‘why’ question will assist in contextualising the statistical data and in understanding how and why listener attention was maintained or not.]

9) Now that you have heard the composition, would you like to listen to it, or a similar type of composition again in the future?

If yes, why?

If no, why not?

[Dissemination of E/A art music to a broader audience can only occur if this audience wants to hear more. A listener may enjoy a particular work but not necessarily be interested in hearing more.]

The DQ is completed after the first listening only. It is designed to solicit information concerning the initial listening experience before any extrinsic contextual information, such as the title and dramaturgic information have been offered to the listener, and before repeated listening has occurred. This is because familiarity with the work may have some influence on the listening experience. The DQ generates data through which the listener’s first contact with the sounding content of the work can be investigated, in terms of understanding how the process of interpretation and meaning generation is functioning based on the work’s sounding content alone.

2.2.7 Listener testing procedure.

The listener testing procedure involves playing the selected test compositions for the listening participants and recording their responses. In order to investigate the effects of dramaturgic information on the listening experience the test work is played three times during a single testing session. Listener responses are monitored throughout all three listenings – the listener response questionnaires have therefore been designed to reflect these three separate listenings.

Listening 1 – The work is played without providing the listeners with its title or any dramaturgic information. During this listening test participants complete RTQ1. After listening and following completion of RTQ1 listeners are then given the DQ to complete; this is completed before the second listening.

Listening 2 – The work is played again, this time providing the listeners with its title. During this listening test participants complete RTQ2.

Listening 3 – The work is played again, this time providing the listeners with dramaturgic information solicited through the CIQ. During this listening test participants complete RTQ3.

These three listenings are to provide data concerning:

- a) The extent to which access and appreciation is possible without any contextual data being given prior to listening to the work.
- b) The means by which listeners make sense of the work in terms of its content alone.

These two factors will also demonstrate the extent to which the work itself contains information that indicates the appropriate means through which to interpret the work – these are the SHFs.

- c) The extent to which the title and the dramaturgic information assist the listener in terms of access and how such information informs the listening strategy and enhances

appreciation. An important question here is: to what extent does dramaturgic information provide the listeners with something to hold on to when engaging with the work?

Responses to these three listenings will also be comparatively analysed through the varied levels of experience represented in the user groups. For example, the extent to which access and appreciation is possible without any contextual data being given prior to listening to the work; and how this is influenced (if at all) by the experience level of the listener.

2.3 The pilot project.⁹⁵

Having designed the principal data solicitation methods at a theoretical level, a further process of method validation was required at a practical level. This involved the running of a pilot project to beta-test the methodology in a real-world setting.

Orlando Fals Borda has noted that in the development of participatory research methodology it is counterproductive to regard the researcher and the researched as two discrete poles. Both are to be considered as real ‘thinking-feeling persons’ with diverse views on the shared life experience. This can have practical consequences in terms of testing methods and data gathering devices (questionnaires), in that they can be developed through the full participation of the interviewees. Such collective, group research obtains more interesting, reliable, and cross-referenced results, with the barrier between the intellectual ‘crowd’...and common folks being to some extents overcome. (Borda, 2001: 30)

In order to facilitate a better understanding of the testing methodology in its real-world, functional context, participants in the pilot project were asked to give feedback on the methodology (testing procedures and questionnaires), in terms of what aspects they found difficult and/or confusing and how these difficulties might be relieved. Many of the listener-testing candidates, from all user groups, made important suggestions concerning possible alterations to the methodology, where appropriate these suggestions have been put into practice.

⁹⁵ Listener testing participants and results from analysis of the data in the pilot project have not been integrated into this thesis.

2.3.1 Listener testing revisions.

Several preliminary listening sessions were conducted using the first drafts of the RTQ and DQ. Two test works were utilised for these sessions: *Nocturne* and *Postcards from the Summer*. Although initially selected as a test work for the project *Postcards from the Summer*, composed by Rob Mackay, had to be dropped as its duration (12'54'') became an issue in terms of the total duration of testing sessions. Each listening session requires playing a work three times. On average the completion of the DQ takes ca. 20 minutes. This includes the time it takes to hand out the questionnaires, to give basic instructions concerning how to complete the questionnaires, for the listeners to read the accompanying track notes and to be read the extra dramaturgic information taken from the CIQ. I found that once the testing procedure (before the end of session discussion) moved beyond ca. 45 minutes, listeners began to get restless and distracted, their attention appeared to stray and they began talking amongst themselves involving conversations that did not concern their experience of the work. This attention span problem demonstrated that test compositions should be ca. 8 minutes maximum in order to complete the testing procedure within what appears to be an acceptable listener attention span.

The user groups for these sessions comprised:

Inexperienced group – Seventeen Further Education (FE) college students (musically educated) and nine general public (not musically educated); Twenty-six participants in total.

Experienced group – Seventeen participants in total.

Highly-experienced group – Seven participants in total.

It was speculated that the most difficult group from which to solicit data would be the InEx group, particularly in terms of the language used in the questionnaires. It was important that this language was understandable by the most inexperienced listeners and so feedback from this particular group concerning the accessibility of the methodology was encouraged. Smaller groups of experienced and highly-experienced listeners were used to provide

appropriate feedback on the methodology from an academically experienced perspective (experienced and highly-experienced user groups were all drawn from academia.)

The real-time listener response questionnaire.

The data generated through the RTQ from all user groups was useful and relevant to the research. The guidance given was successful in allowing the listeners to openly express their thoughts whilst listening to the composition and in soliciting as wide a range of responses as was possible under such conditions.

In the second listening, where the listeners are given the title of the work prior to listening, they are asked:

Please list any new thoughts, images and/or ideas that come to mind as you listen to the composition now that you are aware of the title of the composition:

Several participants from all groups found that the use of the word ‘new’ forced them to try to come up with completely new ideas whilst listening to the work. My goal in the second listening is to discover the extent to which listeners are beginning to expand on their initial ideas (and establish new ideas) and how this is influenced by the title. The second listening question has been altered (in the final working version of the questionnaire) to read:

Now that you are aware of the title of the composition, please list any new thoughts, images and/or ideas that come to mind, or try to expand on any ideas that you have as you listen:

The question is now more directed than the first listening question, but this is acceptable in that it is designed to solicit more controlled information. I believe it still maintains an acceptable level of interpretative freedom for the listener.

Following the second listening, listeners are asked a supplementary question:

Please elaborate as to why being provided with the title of the piece helped you or hindered you in becoming more engaged with the piece and/or helped you or hindered you in understanding the piece?

Some participants felt that this particular question was difficult to understand as it contained multiple questions and an awkward syntax. This question has been simplified, it now reads:

Did knowing the title help you to understand the composition?

If yes, why?

If no, why not?

Following the third listening, listeners are asked a similar question as in the second listening:

Please elaborate as to why being provided with the composer's intentions for the piece helped you or hindered you in becoming more engaged with the piece and/or helped you or hindered you in understanding the piece?

The same problems occurred with this question as with the second listening question; similar alterations have been made:

Did knowing the composer's intentions help you to understand the composition?

If yes, why?

If no, why not?

I found that the RTQ did not solicit any direct information concerning the affects of repeated listening. This was addressed by adding the following question after the third listening: *How did repeated listening help you in understanding the piece?*

The Directed listener response questionnaire.

In general, the data generated through this questionnaire was of sufficient depth, and its directed approach provided data that could be channelled into the appropriate areas of investigation without excessive interpretation on my part, as the inquirer. As with RTQ several improvements, alterations and additions were required based on analysis of the response data and general feedback from the listening candidates.

The first alteration was to add the question: *What might this piece be about?* This question was created to solicit data concerning the listener's interpretation of a work's

meanings, and to discover if the listeners are interpreting any symbolic, metaphoric or narrative sub-texts. It may be that some listeners do not reflect on what the work might mean during their listening experience or might not have been engaging with meaning in the first instance. However, asking the question and stimulating such reflection may provide the listener with a means through which to have a more engaging, meaningful listening experience and so may contribute to their appreciation of the work and future works, should they come into contact with similar RWE/A music in the future.

The same question (*What might this piece be about?*) was also added to the RTQ after the second listening, where the title has been provided. This is to examine the extent to which the interpretation of meaning is being influenced by the title.⁹⁶ This generates valuable data in terms of discovering if there is any parity between what a composer is intending to communicate and what a listener thinks the composition is about through the context of the title.

I found that the question (*Now that you have heard the composition, would you like to listen to it, or a similar type of composition again in the future? If yes, why? If no, why not?*) was not generating data that the question was designed to solicit. This was due to the wording of the question; most listeners were focussing on whether they would like to listen to the *same* work again. This question has been altered to read:

Now that you have heard the composition, would you choose to listen to a similar type of composition again in the future?
If yes, why?
If no, why not?

During the running of the project, several of the HiEx user group participants asked if the question meant, would they choose to listen to E/A art music in general? The question concerns only the types of works represented in the test material. Inexperienced listeners are not aware of the variety of E/A art music types and styles outside of the research

⁹⁶ Asking this question after the dramaturgic information has been given is irrelevant, as the composition's meanings from the composer's perspective have been divulged to the listener.

parameters and so will only be able to respond to the question through the context of the types of composition heard during testing.

Two supplemental questions have been added to solicit further information relative to the above question:

Would you purchase a CD containing this type of composition?

If yes, why?

If no, why not?

Would you attend a concert featuring these types of compositions?

If yes, why?

If no, why not?

There is perhaps a lot of difference between hearing another similar composition by chance, liking this type of music, choosing to listen to this type of music, or paying money to hear this type of music. Responses to these two supplemental questions have been discovered to be less than methodologically relevant due to widely different interpretations concerning CD purchasing customs and concert attendance. This is discussed in chapter 3.1.6.

2.3.2 Post-testing session discussions.

At the end of testing sessions during the pilot testing phase listeners often began an unprompted discussion amongst themselves about the test work, what they thought about it both in terms of its content, its meanings and their personal likes and dislikes. These discussions often involved the listeners explaining their interpretations in more expressive detail than in the written responses. I decided to make audio recordings of these discussions in subsequent pilot test sessions (involving the InEx and Ex user groups). These were transcribed into text. However, this practice was found to be problematic. Placing an active microphone into the discussion situation had the effect of silencing many participants, particularly those in the InEx user group. To resolve this issue, group discussion in the main project was subtly encouraged at the conclusion of all listening sessions, without

audio recording.⁹⁷ Pertinent points that arose during these discussions were noted; this practice has proven to be an important means of soliciting unexpected data that is not revealed through the questionnaires. It tends to demonstrate the extent to which listeners have been engaged and stimulated by the work based on the duration, detail, and energy level of their discussion.

2.3.3 The treatment of bad data.

The pilot project revealed several instances of what has been deemed bad and unusable data. This data took two forms: incomplete questionnaires and instances where the testing was quite obviously not taken seriously. The following example of actual response data contained both forms of bad data.

The Real-time listener response questionnaire.

1st Listening

Please list any thought, images and/or ideas that come to mind as you listen to the composition:

Response: It sounds to me like the sound of the sea, oh could it be the sound of the sea? Now there's a plane oh how I must complain why was it not a train? There's an accordion, isn't it fun, a snake, some children, oh how they run, oh there's a swing, oh ring a ding ding and now it's gone.

This listener has offered what appears at first to be an interesting, creative poetic response to the first listening based on the identification of certain recognised environmental sounds (sea, plane, accordion, snake, children, swing) this data could be used as pertinent sound identification data. However, no responses were written for the second and third listening. In the bottom right of the questionnaire is printed 'If you run out of space please continue on the reverse side of this page'. The listener has amended this to read: 'If you run out of space *ask NASA I'm sure they'll lend you some.* The addition of the NASA text in the

⁹⁷ The practice of concealed recording is unethical.

bottom right corner indicates what may simply be a playful attitude. Further responses in the DQ reveal that this listener did not actually take the testing seriously. This could, of course be an indication that the listener did not find the work engaging. But without sufficient responses being offered in the questionnaires indicating such lack of engagement with the work itself, the listener may simply have not been interested in participating.

The principal problem with bad data in the main project concerns the core listener groups. If a listener offers bad, unusable data in one of the three sessions, their entire data set (comprising all three testing sessions) will be compromised, as valid analysis of the data with respects to certain aspects of the research goals requires that all three sessions generate usable data. Listeners producing bad data for a particular work cannot be re-tested as they will be familiar with the work and so the controlled integrity of the testing methodology will have been compromised.

In total, five sets of responses in the pilot project were deemed to be unusable (10% of all data). All of these came from the InEx user group. In the main project, eight sets of responses (14%) were deemed unusable (six InEx and two Ex listeners), new listeners were found to replace these.

CHAPTER 3

TEST RESULTS – ANALYSIS OF LISTENER RESPONSE DATA⁹⁸

Throughout chapter 3 a particular focus is given to InEx user group results as this is the group of most interest to the research. Ex group results are also highlighted where there is a pertinent comparison to be made between InEx and Ex response data. In many cases this takes the form of a percentage of responses relative to the total number of listeners in the inexperienced and Ex user groups, in many cases followed by an interpretation as to what the statistics demonstrate. As the inexperienced group comprises both a core group of twenty listeners and a supplemental group of thirteen listeners for each work, percentages for both the core inexperienced user group and supplemental user group are presented separately in order to allow for accurate statistical comparisons to be made between the core inexperienced and Ex user groups. For example,

Nineteen InEx listeners (**58% of group/50% of core group**), seventeen Ex listeners (**85% of group**) and four HiEx listeners felt that the work was about experiencing the sounds of a particular location or locations.

58% of group – this figure is a percentage of the entire user group, that is the core group (20 listeners) + the supplemental group (13 listeners).

50% of core group – this figure is the percentage of the core user group participants present in the total number of InEx responses recorded. In this case ten of the nineteen recorded responses came from the core user group.

85% of group – this figure is a percentage of the Ex core user group (20 listeners).

⁹⁸ Interpretation of all pertinent results revealed in chapter 3 is presented and discussed in chapter 4.

Percentages of HiEx responses are not used as this group comprised a significantly smaller number of participants. Qualitative responses from this group are used to indicate pertinent aspects of HiEx user group responses where appropriate.

3.1 *ABZ/A*.

The chosen approach through which to present dramaturgic information for each of the test works is to allow the composer to speak for him/herself through responses written in the CIQ.⁹⁹ Readers of this thesis are invited to use the dramaturgic information presented in the CIQs as a context through which to listen to the works (these are available on the CD included with this thesis). This practice will demonstrate the extent to which dramaturgic information can assist the listening experience in each of the test works.

The text that usually accompanies the work.

Pete Stollery: “*ABZ/A* consists of a number of scenes using sounds from in and around Aberdeen which kind of call up what Aberdeen means to me as someone who lives there, but which will also will mean something to everyone who listens to it; here are some fairly untreated sounds which are instantly recognisable to everyone (airport, cars on cobbled streets, shopping centre). There is text but not that needs to be understood.

There is no story line – it’s more a collection of scenes glued together by opening/closing gestures derived from the sounds themselves. These scenes get longer and longer with the last one lasting for over half the piece. It is best listened to over headphones to really get into the piece and to listen to the minute and subtle transformations of sounds. These sounds are sometimes real/familiar (beach, cars) and sometimes unreal/unfamiliar (opening sound, big drone at climax). Most of the time I am playing around with the images created by the juxtapositions of these sound types. Is the accordionist playing in a shopping centre, on a street, by the sea, or in an unfamiliar space? All of these – and sometimes at the same time! This is what I find interesting about composing in this medium – I like to take the listener on a journey where everything around them is constantly changing from familiar to unfamiliar.

ABZ/A is part of a larger collaboration called ...*silhouettes/resonances*... by four sound artists based in Scotland. Each piece is concerned with a composer’s response to a sense of place. The four places (the other three: Glasgow – Alistair MacDonald, Inverurie – Gregg Wagstaff, the Island of Harris – Robert Dow) were chosen from across the varied landscape

⁹⁹ Questions that were not relevant have been omitted; this is the case for all three works.

of Scotland and they reflect both the differences in landscape and the differences between the composers.”

Composer intention questionnaire responses.

List of sound source(s)/source material

Composer’s response:

Almost all of the sounds used in the piece were taken from recordings made in and around the city of Aberdeen, Scotland. These field recordings included:

- Union Street on a weekday afternoon (main street in Aberdeen) from various listening vantage points;
- Swings in playground at Pocra Quay, Footdee (old fishing quarter of Aberdeen);
- Ambience of Aberdeen Docks from various vantage points;
- Seascapes from Aberdeen, many and various;
- Seagulls (on shore and inland);
- Cars moving over cobbled streets;
- Button accordionist playing sea shanties outside busy shopping centre;
- Pelican crossing warning signals;
- Aberdeen airport – many recordings (busy concourse, helicopters setting off for oil rigs, machines).

What were your intentions concerning this particular composition?

Pete Stollery: In *ABZ/A*, I am trying to deal with the issue of a “sense of place”. The piece is one of four commissions which were “about” particular areas of Scotland and what they “mean” to a particular composer. Part of it, I suppose, is a kind of sonic postcard or even advert from Aberdeen, but, as with all my electroacoustic pieces, the emphasis is on the sound being the centre of the listening experience. By using recordings of sounds from in and around Aberdeen I can reflect on what Aberdeen means to me as someone who lives there, but these sounds will also mean something to the listener, being able to bring their own experiences into play. Most of the time I am playing around with the images created by the juxtapositions of sound types. Is the accordionist playing in a shopping centre, on a street, by the sea, or in an unfamiliar space? All of these – and sometimes at the same time! This is what I find interesting about composing in this medium – I like to take the listener on a journey where everything around them is constantly changing from familiar to unfamiliar.

What methods are you using to communicate these intentions to the listener?

PS: I’m pretty much relying on the recognisable aspects of sounds to communicate this intention, but I am also using shape and gesture (particularly waves, not just from the sea, but, for example, the gesture shape of a car passing) to bring a formal coherence to the piece. Sound transformation techniques are also used to create wave shapes out of specifically non-wave-shaped sounds.

Is there a narrative discourse involved?

PS: There is no linear text-based narrative, but this is a collection of disparate scenes which are held together through a temporal structure which climaxes at around 3/4 of the way

through. There are some recordings of spoken phrases, but these only serve to try to place the listener in a particular context rather than being an intrinsic part of the piece.

How important is it that this narrative is received and why?

PS: The basic compositional technique of tension and release is evident and, from a musical point of view, it is important that the piece's shape is perceived as such. But the fact that the sounds are from Aberdeen is only important on one level; the piece will obviously be listened to in a different way by a listener from Aberdeen, as opposed to someone who has never been there, but recognises the sounds.

Where did the inspiration to create this particular composition come from?

PS: The nature of the commission very much led the inspiration, I suppose, but the use of sounds in recognisable and unrecognisable contexts, and the interplay between these two contexts, is fundamental to my way of composing.

Is it important to you that your composition is listened to with your intentions in mind and why?

PS: In all of my music I expect there to be a balance as far as listener reception is concerned. I can project a sound into a listening space with all manner of intentions attached to it (from me) but these are tempered by the listener who brings their own experience to decode the sound and place it into a context which they can deal with. This is very much a sharing process and something which I am constantly aware of when I am composing. Writing a piece like *ABZ/A* allowed me to use some very recognisable sounds, but at the same time to be able to play around with the way these sounds are received.

Is/are there something(s) in the composition that you want the listener to hold on to and why?

PS: Yes, this concept of (quasi-)recognising a place which is typified by the sound world they are hearing.

At what point in the compositional process did you decide on a title for the piece?

PS: About half way through. The title would obviously reflect the nature of the piece. *ABZ* is the international airport ID for Aberdeen and *A* is the maritime equivalent.

How much do you rely on the title as a tool with which to express your compositional intentions and why?

PS: Very much so; the maritime history of Aberdeen is rich and fish used to be at the centre of its economy. More recently this has been overtaken by oil and gas industries and the airport, for me, represents a central point from where oil workers fly out to rigs.

Do you rely on any other accompanying text, in the form of programme notes, to outline your intentions prior to the listener's engagement with the composition and why?

PS: It depends on how the piece is being performed. If it is to be diffused in a performance space I would prefer to talk about the piece beforehand, not giving away anything, but rather preparing the listeners for what is about to come – kind of guiding them through the piece. If the piece is performed on radio or no oral presentation is possible, the accompanying notes can be used, but preferably, only after the piece has been heard.

Who is your intended audience for this composition?

PS: All audiences.

How is your compositional process influenced by the intended audience, if at all?

PS: I don't think of an intended audience, rather I have in mind all audiences. As mentioned above, taking into account the audience's experience is something that I am aware of during the compositional process. It is very difficult to explain how I do this; obviously I cannot begin to try to work out what everyone's experience is, and a piece will hopefully live on longer than its first performance anyway. If a piece is composed for a specific purpose, perhaps as an introduction to the genre, then one might be able to compose for a particular client group, but most of the time, one is actually composing for all audiences.

How important is it that the technical processes involved in the composition are recognised by the listener and why?

PS: This is of little or no importance to me, but it is fun talking to other composers about "how I did things", but my music isn't just for other E/A composers to listen to.

3.1.1 The listening experience – first listening responses for *ABZ/A*.

The majority of first listening experiences involved the identification of recognisable, environmental sounds described by way of the source/cause of the sound, "traffic, gulls, someone walking along a pier", and/or the identification of locations, both specific, "France, airport, train station", and unspecific, "busy place", "several locations", "bustling area".

TABLE 1

THE MOST OFTEN IDENTIFIED SOUNDS FOR ALL THREE USER GROUPS IN ABZ/A.

InEx core & supplemental groups combined - most often identified sounds in first listening - 'ABZ/A'		Ex user group - most often identified sounds in first listening - 'ABZ/A'		HiEx user group - most often identified sounds in first listening - 'ABZ/A'	
Sound	Number of responses	Sound	Number of responses	Sound	Number of responses
Accordion	28	Seaside	15	Seaside	3
Traffic	26	Traffic	14	Traffic	3
Aircraft	22	Accordion	12	Town/city	3
Seaside	22	Crowded ambience	9	Accordion	2
Swing	19	Town/city	9	Crowded ambience	2
Waves	17	Children/children's voices	8	Waves	2
Gulls	13	Gulls	8	Swing	2
Town/city	11	Aircraft	7	Café	2
Children/children's voices	11	Voices	7	Machines	2
Voices	10	Waves	7	Voices	2
Crowded ambience	10	Swing	6	Children/children's voices	1
Fairground	9	Station location	6	Aircraft	1
Announcement	6	Birds	4	Door	1
Café	6	Door	4	Gulls	1
Pedestrian crossing	5	Pub	3	Playground	1
Airport	5	Announcement	3	Street	1
Footsteps	4	Café	3	Landscapes	1
Pub	4	Machines	3	Environmental sounds	1
Machines	3	Fairground	2	Human sounds	1
Breaking the accordion	2	Airport	2		
Playground	2	Street	2		
Shopping centre	2	Pedestrian crossing	2		
		Playground	2		
		Footsteps	2		

Table 1

The most often identified sounds were: accordion, traffic, aircraft, seaside, swing, waves, gulls, town/city sounds, children/children's voices, voices (general), and the identification of a crowded/busy ambience. The only variance is their position in the table in their respective group. For example, the accordion sound is atop the InEx group while seaside sounds are atop the Ex group.

DQ1 – ‘What might this piece be about?’

TABLE 2

INEXPERIENCED CORE USER GROUP RESPONSES TO THE QUESTION, ‘WHAT MIGHT THIS PIECE BE ABOUT?’ (DQ1) IN *ABZ/A*.

DQ1. InEx core user group - 'ABZ/A'	
Listener number	Response
1	It is based at a seaside resort.
2	Different scenes and situations, halfway through becomes eerie.
3	A day out at seaside, going there on a tube train, walking along the sea front listening to the sounds.
4	A visit to a French seaside town by air.
5	A family vacation, the sights and sounds around you.
6	A day in the life of a seaside café owner. Slow monotonous day during the off season. The different sounds are what the owner hears and thinks of during the day.
7	Travelling to seaside and the different sounds there.
8	Being at a carnival.
9	A fairground by the sea, perhaps like Blackpool.
10	A child’s holiday to the sea.
11	A dream about a holiday that turns into a nightmare.
12	A journey to the seaside in France, by plane, then through a time warp to childhood.
13	A state of mind, light and dark, schizophrenic!
14	Travel.
15	A day in the life of a seaside town.
16	Some kind of travel as the sounds are from different areas.
17	Linking sounds in a wet street to sounds of the beach.
18	Summer vacation, childhood, holidays, Paris, France, how fast things can change.
19	A train journey.
20	A family outing on a mild but rainy day.

Table 2

TABLE 3

INEXPERIENCED SUPPLEMENTAL USER GROUP RESPONSES TO THE QUESTION, ‘WHAT MIGHT THIS PIECE BE ABOUT?’ (DQ1) IN *ABZ/A*.

DQ1. InEx supplemental user group - 'ABZA'	
Listener Number	Response
1	A seaside village.
2	A trip somewhere, a journey, the sound of the sea and the rollercoaster make it appear to be Blackpool.
3	I don't get the impression of a theme, quite random.
4	A flashback of a persons life, all the major bits of their life – joyful activities e.g. Seaside, growing up (classroom), the slicing sound at the start represented the recall of memories.
5	A journey, some people going on a trip to a different country then something bad happens but everything is ok.
6	Childhood experiences, travelling, holidays, communication.
7	A journey.
8	A dream, images that don't seem related and change rapidly like in a dream.
9	The journey of a drifter, who has returned to temporary lodging and is contemplating what they have just done, all the memories merged into one.
10	Old way of life meets modern urban lifestyles – the folksy accordion and seaside against recordings of urban living, crowd noises, could be childhood vs adulthood, folksy parts evoke a sense of yearning for the past.
11	A commute.
12	A walk by the sea and on the beach.
13	A day out with a family – at the beach but a busy industrial estate type area.

Table 3

TABLE 4

EXPERIENCED USER GROUP RESPONSES TO THE QUESTION, ‘WHAT MIGHT THIS PIECE BE ABOUT?’ (DQ1) IN *ABZ/A*.

DQ1. Ex user group - 'ABZ/A'	
Listener number	Response
1	A journey by underground where other places are evoked, such as sea, avenues, beach and playground. I feel in two places at the same time, dual, surreal, at one time it is night, but I don't feel any time pass.
2	The soundscape encountered at a certain airport which is situated beside a seaside resort. It seems to explore the contrast in these two different sets of sounds but also draws similarities between them e.g. the aircraft taking off and breaking waves.
3	Journey using the sea as a way of moving between sections.
4	No idea! Travelling along a coast through both busy and quiet coastal towns?
5	Some kind of travel.
6	Summer, journey, travel, holiday.
7	The sea front? A village at the seafront? The journey there? A trip to the sea front, starting in the city and heading towards the sea.
8	A journey through a coastal town to the sea and then out to a different place, possibly a foreign country.
9	A journey around a seaside resort showing different aspects of the area.
10	Describing a journey, a number of soundscapes are explored with the sound of vehicles in between.
11	City life i.e. stress, pollution, traffic, noise.
12	A fishing town, sailors meeting and going off to catch fish – or whales?
13	A day at the seaside.
14	No idea, a sequence of images, the listener is transported from one location to the next, then it just got weird.
15	A journey through a seaside town using snapshots.
16	It may represent two different locations, a French town by the sea and the other a smaller place, a room or someone's mind, the surreal passages and use of transportation suggest a sense of physical movement from one point to another.
17	Childhood, how the author grew up in a seaside town and moved away, an aural memory of his/her time there.
18	Environments? Comparison of environments, wishing you were somewhere else?
19	A day out at the seaside, a journey.
20	A journey through different soundscapes, town by the seaside, airport, dream-like memories of a place.

Table 4

TABLE 5

HIGHLY-EXPERIENCED USER GROUP RESPONSES TO THE QUESTION, ‘WHAT MIGHT THIS PIECE BE ABOUT?’ (DQ1) IN *ABZ/A*.

DQ1. HiEx user group - 'ABZ/A'	
Listener number	Response
1	Surrealism, contrast between recognisable and extreme abstractness, difficult to tell what concept was in the composer's mind.
2	Childhood, memories, dream, locations that have meaning for composer.
3	States of consciousness or exploration of urban life compared to rural, nature vs technology.
4	It might be about two different worlds, real world – natural human environment & abstract world of unfamiliar sound.
5	The relationship between soundscape and the artificial – individual and more abstract sound types.
6	A man and his machine vs the ocean. No winner.
7	An attempt to get below the surface of concrete sound. Field recordings examined in detail and elements transformed. A closer/intimate/internal world. A phonograph of a place by the sea?
8	Juxtaposition of soundscapes and surreal transformations.

Table 5

Only one InEx listener (3InEx/NM-AB) was unsure as to what the work might be about.

Interpreting listener interpretations of the work's theme during the first listening experience.

DQ1 responses for all three user groups have been organised into general categories; responses in each category have been tallied. For example, (response 3 – Table 2); “A day out at seaside, going there on a tube train, walking along the sea front listening to the sounds” falls into the category: journey to seaside. In Tables 6, 7 and 8 categories are presented in descending order of subjects/themes receiving the most responses; for example, in the InEx group (Table 6), nine listeners thought that the piece was about some kind of journey, while four listeners though that it was about a holiday.¹⁰⁰

¹⁰⁰ This method has been used for all three test works.

TABLES 6, 7 AND 8

RESPONSES ORGANISED INTO THEMATIC CATEGORIES FOR EACH USER GROUP – *ABZ/A*.

DQ1. InEx core and supplemental user group responses combined - 'ABZ/A'	
Category	Responses
Journey	9
Journey to the seaside	7
Being at the seaside	4
Holiday	4
Childhood	3
Being at a carnival/fair	2
Nostalgia	2
Various scenes	1
Compositional process	1
Dream	1
None	1

Table 6

DQ1. Ex user group responses combined - 'ABZ/A'	
Category	Responses
Journey	9
Being at the seaside	8
Journey to the seaside	3
Various locations	2
Childhood	1
Nostalgia	1
Memories	1
Holiday	1
Airport/seaside sounds	1
City life	1
Fishing town	1

Table 7

DQ1. HiEx user group responses combined - 'ABZ/A'	
Category	Responses
Real/unreal juxtapositions	4
Urban/rural juxtapositions	1
Seaside location	1
Childhood	1
Memories	1
Man & machine vs. ocean	1

Table 8

Combining the results for Tables 6, 7 and 8 reveals that the most prevalent, general themes identified as what the work might be about were:

Going on a journey (18 responses).

Being at a seaside location (13 responses).

Going on a journey to the seaside (10 responses).

Being on a holiday (5 responses).

Childhood (5 responses).

Nostalgia (5 responses).

The use and exploration of real/unreal sound juxtapositions (4 responses).

This particular response does not relate to the most identified sounds but represents the HiEx group's tendency to interpret the work from an electroacoustically focussed perspective. These responses are quite close to certain aspects of the composer's communicative intent, "I am playing around with the images created by the juxtapositions of sound types...I like to take the listener on a journey where everything around them is constantly changing from familiar to unfamiliar". (Source: CIQ1).

As demonstrated in Table 1 the most often identified sounds were: accordion, traffic, aircraft, seaside, swing, waves, gulls, town/city sounds, children/children's voices, voices (general) and the identification of a crowded ambience. Comparing these sounds with the DQ1 results (Tables 6, 7 and 8) reveals how these most often identified sounds have been used (either as isolated sounds or in associated combinations with other sounds) to establish the predominant interpretations of what the work is communicating.

The predominant theme of going on a journey through and/or to a particular location was the result of the combination of recognised real-world sounds (from the most often identified list above) reinforced by a combination of the temporal progression of the work and its episodic content (the different scenes that are visited over the duration of the work, i.e., the listener is taken on an aural journey through time as the piece plays in real-time). The journey through and/or to a location is reinforced by the listener holding on to the experience of, as the composer notes, "a collection of disparate scenes" that are presented over a period of time – 5.05 – the duration of the work. These scenes are: an inside location that shifts to an outside location with seagulls, then to city streets, to an airport, to a pedestrian area, to the seafront, then into a scene containing sounds of planes, cars, and a bus, then on into an abstract sound world, then back to a seaside soundscape with children's voices ending with the sound of a swing. This episodic/temporal progression combination may also explain why many of the listeners interpreted the work from a narrative perspective. Experiencing varied, contrasting scenes over time is itself a narrative journey. Despite this narrative turn however, most listeners felt that it was the experiencing of the sounds of the various scenes/locations that was the most engaging and pertinent aspect,

they held on to the sense that each isolated scene offered its own particular sound experience.

The identification of the seaside soundscape was used by some listeners to establish their interpretation of being on a holiday at a seaside location. The sound of children's voices and the sound related to children playing (the swing sound at the conclusion of the piece) were also used to interpret a theme. These sounds suggested a theme of childhood which when placed into the context of being at a holiday location (seaside sounds), suggested the theme of family holidays to the seaside. This interpretation led to themes concerning nostalgia and reminiscence, of thinking about the past. Most listeners who offered a nostalgia interpretation noted that they felt it was the composer who was reminiscing about her/his childhood experiences. These responses have been established through a series of subjective (and at times personal) subtexts that were created through associations between the various identified sounds.

Comparing first listening interpretations with the pertinent aspects of the composer's communicative intentions.

Many aspects of the composer's communicative intentions, those described in the CIQ, have been fully or partially experienced by the listeners to varying extents. Accurate interpretations of the composer's communicative intention are often a result of accurately identified source sounds and provenance. The extent of this accuracy can be revealed by mapping recognised sounds onto pertinent sound sources used in the work. Source sounds that were identified by all listeners, from all groups during the first listening have been highlighted in the list of sound sources provided by the composer.

- Union Street on a weekday afternoon (main street in Aberdeen) from various listening vantage points;
- Swings in playground at Pocra Quay, Footdee (old fishing quarter of Aberdeen);
- Ambience of Aberdeen Docks from various vantage points;
- Seascapes from Aberdeen, many and various;
- Seagulls (on shore and inland);
- Cars moving over cobbled streets;
- Button accordionist playing sea shanties outside a busy shopping centre;
- Pelican crossing warning signals;

– Aberdeen airport – many recordings (busy concourse, helicopters setting off for oil rigs, machines.

Most of the highlighted sound sources were identified by all three groups (many of which appear in the top eleven most identified sounds list), except for the sound of a shopping centre, identified by two listeners in the InEx group and the accordion playing “sea shanties” identified by listener 12Ex. Sixteen listeners (thirteen InEx, two Ex and one HiEx), out of the forty-two who identified the accordion sound, interpreted it as French music and/or as indicating a French location. For example, 18InEx/M “accordion gives impression of France – Paris”, 2InEx/NM-A “accordion – French sound”. Interestingly, five of these listeners were in the non-musician category. This suggests that their lived experiences, rather than musical education, has given them the means through which to place a particular musical style/instrumental sound into a cultural context. The listeners appear to be associating either the style of the music being played, the type of instrument producing the music or the timbre of the instrument’s sound with French music or Frenchness. It should be noted that CIQ sound source information reveals that the accordion was playing sea shanties. This information, when offered through the dramaturgic information may help limit such contextual misinterpretation. No listener specifically identified sounds as coming from the docks,¹⁰¹ although listener 6Ex, did hear, “fishermen processing their catch”. No listener specifically identified the sound of cobbled streets, although listener 17InEx/M did interpret one particular sound as “traffic moving along wet streets” perhaps a case of mistaken spectral identification.

Mapping listener responses on to the composer’s communicative intentions.

The composer wanted to communicate a “sense of place...a kind of sonic postcard...from Aberdeen”. The composer is aware however, that an accurate sense of place (Aberdeen) may not be interpreted, “[...]the fact that the sounds are from Aberdeen is only important on one level; the piece will obviously be listened to in a different way by a listener from Aberdeen, as opposed to someone who has never been there, but recognises the sounds”.

¹⁰¹ This changed in the third listening, see chapter 3.1.3.

Only one listener (16Ex, RTQ1) identified Scotland from the accents in the first listening. This Scottish identification changed significantly in the third listening¹⁰². The composer wanted the listener to hold on to the “concept of (quasi-) recognising a place which is typified by the sound world that they are hearing”, and to incorporate their own experiences into the interpretation of the work. As expressed in CIQ8,

In all of my music I expect there to be a balance as far as listener reception is concerned. I can project a sound into a listening space with all manner of intentions attached to it (from me) but these are tempered by the listener who brings their own experience to decode the sound and place it into a context which they can deal with. This is very much a sharing process and something which I am constantly aware of when I am composing.

Nineteen InEx listeners (65% of group/55% of core group), seventeen Ex listeners (85% of group) and four HiEx listeners (50% of group), felt that the work was about the sounds related to a particular place, places and/or locations, e.g., 1InEx/NM-AB “A seaside village”, 7Ex “A village at the seafront” 7HiEx “A phonograph of a place by the sea”. Listener 15Ex was quite close with his “a journey through a seaside town using snapshots” interpretation, as was 20Ex with “dream-like memories of a place”. In total, 65% of all listeners after the first listening felt that the work was about experiencing the sounds of a particular location or locations. Most arrived at this interpretation by holding on to the recognised sounds relating to a seaside soundscape or those of a town/city soundscape.

The composer wanted “sound [to be] the centre of the listening experience”, both in terms of its real-world references and from a structured, formal perspective. As revealed above, the majority of listeners from all user groups felt that the work was about experiencing the sounds of certain locations; whereas a significantly smaller number of predominantly Ex and HiEx listeners identified the formal, structural and composed characteristics of the work.

The composer describes the structure of the work as “a collection of disparate scenes which are held together through a temporal structure which climaxes at around 3/4 of the

¹⁰² See chapter 3.1.3.

way through”. Most listeners detected the episodic characteristic of the work, the collection of various scenes, and incorporated this into their interpretation of the work. The climactic section that the composer speaks of at 2.46-3.59 was identified as a particular, discrete section of the work by twenty-five InEx (76% of group/70% of core group), sixteen Ex (80% of group) and eight HiEx listeners, but only identified as ‘climactic’ by eight listeners (one InEx, four Ex and three HiEx), e.g., listener 7InEx/NM-AB who found “the bit after the waves started where it began to build up to a climax” to be one of the most engaging aspects of the work. Of the forty-nine listeners who identified this particular abstract section, sixteen incorporated this section into their interpretation of what the work might be communicating (six InEx, five Ex and five HiEx). For example, 5InEx/NM-AB, “a journey, some people going on a trip to a different country then something bad happens [my emphasis] but everything is ok”. This ‘something bad’ event is not given a specific real-world imagery, but is being interpreted as symbolising something bad. The listener (unable perhaps to establish an image-based, real-world reference for this abstract sound section) is still finding a way to incorporate it into his interpretation.

The composer’s intention to take the listener on a “journey where everything is changing from familiar to unfamiliar” was identified by many listeners (predominately from the Ex and HiEx groups), in the form of recognised sound juxtapositions and the morph-like, cross-fade transformations between sounds. Three InEx listeners (9% of group/10% of core group) experienced a familiar/unfamiliar juxtaposition of sounds, compared to twelve of the Ex listeners (60% of group) and 100% of the HiEx group. Examples of juxtaposition identification are, 13InEx/NM “the contrast between real and unreal sounds” (this real/unreal juxtaposition was a typical InEx response in this work), 4HiEx “natural human environment and abstract world of unfamiliar sound”. Many Ex and HiEx listeners experienced sound juxtaposition from a timbre/texture perspective, e.g., high frequency vs low frequency or grainy vs smooth. Such sound juxtaposition is a relatively common compositional approach in E/A art music, hence why the Ex and HiEx group were more likely to recognise its presence and include it in their interpretation of what the work might be communicating.

Eight InEx (24% of group/25% of core group), thirteen Ex (65% of group) and four HiEx listeners detected transformations between certain sounds. Some that were based on real sound to real sound transformation, for example, listener 2InEx/NM who heard “thunder that turns into a car” and “a scream that turns into seagulls”, and listener 14InEx/M who heard a “continuous sound that grew out of the traffic sound”. Such responses from the InEx group (non-musicians included) demonstrates a surprising level of engaged and attentive listening. Most of the InEx listeners who detected transformations recognised real sound to real sound transformations, rather than real to abstract or vice versa. Other listeners heard transitions from real to unreal sounds, 7HiEx perceived “cross synthesis – car sound changes into harmonic shape” and 16InEx/M, noted that he “liked the way the sounds transformed from real to unreal.” As with juxtaposition detection, the Ex and HiEx listeners were more likely to identify sound transformations as this technique is also commonly used in E/A art music.

Most InEx listeners tended to create image-based interpretations of the sounding content, both natural and unnatural, that were then combined into a narrative structure, rather than identifying the behaviour, structure, shape, dynamic and gesture characteristics of the sounds, combinations of sounds and the work in general. This is an obvious listening approach for InEx listeners, who have no knowledge of the formal compositional processes often used in E/A art works and who are not practised in concentrated listening and acousmatic listening techniques (listening for the musical, structural and dynamic elements as opposed to identifying sounds and composing an interpretation based on what these sounds mean in terms of their real-world relevance).

The least identified¹⁰³ intended formal elements were sound juxtaposition, transformation, wave shape mapping and the temporal/structural climax. Most InEx and some Ex listeners noted that they found the strange sounds confusing and out of place in the context of the real-world sounds. If these elements are an integral aspect of the composer’s communicative intent, it is important that they feature in the dramaturgic

¹⁰³ Mostly by the InEx user group, but also to a significant extent by the Ex group.

information offered to the listeners, particularly if the composer intends to access an inexperienced audience.

3.1.2 Second listening responses – the influence of the title on the listening experience.

The second listening procedure concerning the influence of the title on the listening experience was problematic for the work *ABZ/A*. This was due to the abstract nature of the title and that the listeners were presented with the title without being informed as to what it meant.¹⁰⁴ As the results of the second listening reveal, the title in its unexplained form was not an effective tool of access regarding the communicative content of the work.

Listener responses do demonstrate that most listeners *attempted* to use the title as a means through which to appreciate the work, but were mostly frustrated by its abstractness. They were not confident in their interpretation of what it meant and so often attempted to fit into their initial interpretation, rather than using it to enhance their listening experience in terms of interpreting the work's communicative content.

This problem has revealed that should the title of a work require some form of explanation, the composer might consider making such information available to the listener for this research. In the case of *ABZ/A*, the original track notes for the work do not contain information that explains the meaning of the title; it was only through the CIQ that this information was revealed; CIQ10 response, “the title would obviously reflect the nature of the piece. ABZ is the international airport ID for Aberdeen and A is the maritime equivalent”. When presented to the listeners prior to the third listening, most incorporated its meaning into their interpretation of the work and commented on its usefulness as a tool of access.

¹⁰⁴ This issue was raised quite vociferously by many listeners in post-testing discussions see chapter 3.1.4.

The title influenced second listening experiences in two particular ways:¹⁰⁵

Enhanced interpretation – this classification concerns listeners who had an initial idea as to what the work might be about after the first listening and who used their interpretation of the title to enhance their original interpretation. As in the following example, 7InEx/NM – first listening interpretation, “a journey”. Second listening response, “ABZ/A is like a journey but focussing your mind on the different sounds of the journey. A is the sound of civilisation with the traffic and people. B is waves and water, Z is the climax section, then near the end it goes back to civilisation which is A”.

Reinforced interpretation – this classification concerns listeners who had an initial idea as to what the work might be about after the first listening and who integrated their interpretation of the title into their original interpretation, reinforcing their original interpretation without necessarily enhancing or altering it. As in the following example; 12InEx/NM – first listening interpretation, “A journey to the seaside in France, by plane, then through a time warp to childhood”. Second listening response, “A to B is like a journey from A to B, going to France. Then the plane sound turns into a time-warp that is Z, and then back to A that is the beginning, but back in time”.

RTQ2b – Did the title assist the listening experience?

Ten InEx (30% of group/35% of core group), eleven Ex (55% of group) and four HiEx listeners noted that the title confirmed or reinforced their original ideas and interpretations. In particular, interpretations that concerned journeying through different scenes.

Twenty InEx (61% of group/65% of core group), six Ex (30% of group) and three HiEx listeners noted that the title did not help, as they did not understand what it meant.

¹⁰⁵ Note that listener response examples are only being used to demonstrate how these particular general categorisations were established through analysis of listener response data. The examples used are not meant as indications of the extent to which the title can be used as a tool of access, assisting the listening experience in relation to the communicative intention of the work. As discussed above the use of the title as a tool of access in *ABZ/A* was problematic.

The majority of listeners who attempted to interpret the meaning of the title, noted that they were not completely confident with their interpretation, for example, “it gave me ideas but I don’t know if they are right because the title is not obvious”.

Listener response data reveals that thirteen InEx (39% of group/40% of core group), fourteen Ex (70% of group) and five HiEx listeners held on to the title in relation to the content of the work during the second listening. Most of these listeners indicated that the title suggested a structural sequence to the work, for example “A to B via Z then return to A”. The percentage difference between InEx (40%) and Ex listeners (70%) has to do with the listener’s musical knowledge. Eleven of the thirteen InEx listeners making this particular interpretation were musically educated. Several of these listeners offered responses that demonstrated how they were applying their musical knowledge to establish their structural interpretation of the title in relation to the sounding content, e.g. 19InEx/M “it’s like the ABA form in music...this one has three different sections, then returning to the beginning motif”. All of the Ex listeners were musically educated and so were aware of how music can be structurally described in this way, hence the 70% result.

In *ABZ/A* this structural interpretation was related to the series of various identified scenes that when placed into a juxtaposed relationship offered a sense of journeying from scene to scene. An interesting coincidence in that most listeners during the first listening interpreted the work as being about a journey. Their misinterpretation of the title (unwittingly) supported the predominant first listening interpretation.

The identification and interpretation of pertinent sounds relative to the composer’s intentions during the second listening.

As the title did not offer information that fundamentally assisted the second listening experience in terms of the work’s communicative content, most listeners tended to continue listening to the work in the same manner and through the same interpretative context as the first listening. During the second listening most listeners continued their exploration of the various locations communicated through real-world sounds, a continued exploration of the ‘sense of place’.

Having established the presence of a series of sound scenes, which had led to the predominant ‘journey’ interpretation. Many listeners now searched for new sounds through which to enhance their listening experience. Eight InEx listeners (24% of group/25% of core group) focussed on the abstract sounding elements, attempting to integrate them into their original real-world based interpretation. For example, 5InEx/NM “first [opening] sound like going through a time warp...long weird section near the end is like coming back through the time warp”. His interpretation of this, “it’s about past memories of family holidays that you think about when you’re on holiday.” Twelve Ex listeners (60% of group) and four HiEx listeners also focussed on the abstract content. Most of these responses continued in the same manner as the first listening, concerned identifying the technical processes used on the sounds, several listeners identified points of apparent transformation. Interpretations related to these experiences were mostly concerned with real/abstract juxtapositions, tension and release.

Nine InEx listeners focussed on the sounds of voices, attempting to identify an accent as this would assist in establishing a greater sense of where the work was located and so further enhance their sense of place listening experience. E.g. 1InEx/NM “something said like ‘make a fuckin’ sandwich’, sounds like a Geordie¹⁰⁶”, 17InEx/M “words are muffled, some bits sound English, can’t make out any accent”, 3InEx/NM-AB “the kid’s voice sounds Australian”.

Results concerning the second listening experience for *ABZ/A* demonstrate that due to the ambiguity of the title, repeated listening has been the principal means through which the majority of listeners had an enhanced listening experience. Repeated listening has assisted them in identifying further aspects of the work that are relative to their initial interpretations and in many cases the communicative intentions of the composer (in particular the ‘sense of place’ concept). This is only possible due to the accuracy of the listener’s first listening experience and demonstrates that real-world sounds, when used in their original referential

¹⁰⁶ A British word, used to describe a person or dialect from Tyneside (an area in the northeast of England).

context are very accessible and demonstrate a strong communicative potential particularly for InEx listeners.

3.1.3 Third listening responses – the influence of repeated listening and dramaturgic information on the listening experience.

For the third listening, listeners were offered all pertinent dramaturgic information selected from the CIQ.

Dramaturgic “something to hold on to” factors.

The majority of listeners held on to one or more elements of the composer’s dramaturgic information during their third listening experience. The most prevalent element was the *sense of place* concept. Twenty-three InEx (70% of group/65% of core group), sixteen Ex (80% of group) and two HiEx listeners used the sense of place concept as a SHF during their third listening. A number of these listeners also held on to the *sonic postcard* concept. E.g., listener 11InEx/NM, “the sonic postcards are the changing scenes”. Eleven InEx listeners specifically noted how they enjoyed this particular concept and how it helped them to make sense of the episodic structure of the work. Listeners used the “sense of place” and “sonic postcard” concepts as SHFs through which to engage with each of the various real-world soundscapes that they encountered, and so were able to appreciate the aural aspects of these soundscapes in greater detail. The places/locations mentioned most by listeners in the third listening were an *airport location*, a *dockside location*, a general *seaside town ambience* and *Scotland*. Many listeners noted that they detected Scottish accents during the third listening – this is after having been informed that the sounds were recordings from in and around the city of Aberdeen, Scotland.

These responses demonstrate that the composer’s concept of capturing a ‘sense of place’ through sound has been the principal communicative factor, identified in the dramaturgic information, that has been held on to, engaged with, and incorporated into the listening experience, by the majority of listeners. Third listening responses reveal that the listeners are engaging with the work in terms of its aural significance, thinking about the

various scenes/locations, *not* primarily as images, but as a series of sounds that are particular to the location(s) being experienced.

In *ABZ/A* the composer is,

relying on the recognisable aspects of sounds to communicate [his] intention...[but he is] also using shape and gesture (particularly waves, not just from the sea, but, for example, the gesture shape of a car passing) to bring a formal coherence to the piece. Sound transformation techniques are also used to create wave shapes out of specifically non-wave-shaped sounds.

Twelve Ex (60% of group) and four HiEx listeners acknowledged that the dramaturgic information also helped them with the unnatural sounding elements in the work. Several mentioned how the description of the use of wave shape gestures gave them the means through which to engage with and appreciate this aspect of the work's formal, composed structure. E.g., 2Ex detected "similarities between the aircraft taking off and breaking waves". 15Ex heard "rising and falling layers that lead into the next sample". All InEx listeners focussed on the real world sounds as related to a sense of place and did not appear to explore the wave shape/gesture concept.¹⁰⁷ They began to focus on the particular sounds within each identified scene, rather than how the juxtapositions of scenes suggested a journey. Each scene was listened to in greater isolation, often including interpretations of particular aspects of the sounding content that had an influence on the listener's overall interpretation of the work, at times these interpretations involved an emotional context. Typical examples of this are, 3InEx/NM "the accordion playing outside suggests a summers day...feeling good, just walking around a town by the sea enjoying the sights and sounds", 5InEx/NM "sitting by the sea front just listening to the waves and the seagulls, enjoying the sounds...in each of the different places it's like only I can hear all the sounds going on", 9InEx/NM "the voice of a child 'leave her alone you idiot', then the swing, eerily creaking, this all seems quite menacing – persecuted children", 14InEx/M "the sounds of the airport and traffic become mingled...lots of sounds seem to blend together

¹⁰⁷ Most of the InEx listeners did responded positively to this aspect of the work during post-testing discussions, see chapter 3.1.4.

now. I'm being taken through different scenes in my head like I'm not really there for real – like I'm blind and can only hear stuff'.

Dramaturgy – its role in assisting access and appreciation in ABZ/A.

When asked if the dramaturgic information assisted the listening experience, thirty InEx (91% of group/90% of core group), seventeen Ex (75% of group) and six HiEx listeners responded that it did. Most listeners acknowledged that they were able relate the dramaturgic information to the content of the work and that it enhanced their listening experience. Typical responses being, 8InEx/NM “helped make the piece work, I could listen to the piece as a whole” and 15InEx/M “I can listen out for everything the composer wants me to hear and understand the piece as it is supposed to be”.

Some listeners offered detailed examples of how the dramaturgic information helped, e.g., 2InEx/NM “the intentions definitely come across. ‘I like to take the listener on a journey where everything around them is constantly changing from familiar to unfamiliar.’ I enjoyed this idea”. 5InEx/NM “intentions helped me listen for things mentioned by the composer, the words journey, scene, place mentioned by the composer helped my thoughts”.

The results from both the third listening experiences and the question concerning dramaturgy clearly demonstrate that most listeners felt that the dramaturgic information was an important means through which to access and appreciate the work *ABZ/A*.

Repeated listening

Twenty-seven InEx (82% of group/80% of core group), eighteen Ex (90% of group) and five HiEx listeners noted that repeated listening helped them in some way, be it in a major or minor way. Typical responses being, 7InEx/NM “I became more familiar with sounds and images”, 9InEx/NM “there is so much going on it's hard to pick out everything in one go”. Nineteen InEx (58% of group/60% of core group), thirteen Ex (65% of group) and one HiEx noted that the dramaturgic information helped more than repeated listening. E.g.,

9InEx/M-AB “getting the information was what made it more clearer”. 10Ex “understanding what it was about was most important, but repeated listening did help pick out new attributes”. Several of these listeners responded that repeated listening helped them to go on their own journey, but that it was the dramaturgic information that helped them to make the most sense of the work. For example, 8InEx/M-AB “the more you hear it the more you can change your mind about what it means, the whole thing makes sense when you know what it’s supposed to be about”. Eight listeners (two InEx, four Ex and two HiEx) felt that repeated listening helped them explore the unnatural sounds and processing techniques in more detail, e.g., 6InEx/NM “I could explore the weird bits... still don’t know why they’re there”, 15Ex “synthesis techniques closely examined”, 17Ex “I appreciated the quality of production more each time”.

These results demonstrate that the majority of listeners had an enhanced listening experience through repeated listening, but also that a substantial number of these listeners felt that the dramaturgic information was the *most* helpful factor.

3.1.4 Post-testing, group discussion notes.

Listeners were asked about their thoughts concerning the composer’s formal use of wave shapes and gesture characteristics, 50% of the InEx group noted that they did not hold on to this idea at the time of listening. Many InEx listeners noted that they found this formal idea interesting, but that trying to listen for it in the work ‘got in the way’ of the other sounds that they felt were more important. When I described and played examples of the use of wave shapes in the work, most InEx listeners noted that they could hear it, and that they now understood the idea. Several InEx listeners found it difficult to understand why the composer would want to include these abstract elements when the major focus was on the sounds that gave an image-based impression of a sense of place.

As expected, the Ex listeners were more receptive to the wave/shape idea and when played sections of the piece highlighting the process, they felt that it demonstrated compositional virtuosity. But as with the InEx listeners, they felt that even when they could detect its presence, it did not have a major influence on their overall interpretation of the

work's meanings. It was an interesting specialised element that could be enjoyed separately from what they felt was the work's principal communicative content.

A similar problem was expressed concerning the sudden, unnatural sounds that occurred at seemingly random times. I informed the listeners that these sounds were being used as scene linking gestures, and that these sounds had been produced by way of processing and transforming some of the natural sounds. Many of the non-musician, InEx listener's found this process of sound transformation interesting having not known that such a process was possible. Many thought that all of the strange sounds that they had heard in music and films etc. were the product of synthesisers and not transformed natural sounds.

The most often raised issue from all listeners was the ambiguity of the title. Many listeners mentioned that the track notes did not explain the meaning of the title. All listeners agreed that the information concerning the title that was offered to them in the dramaturgic information prior to the third listening (taken from CIQ11) would have helped their listening experience if it had been presented in the second listening to explain and contextualise the title.

Five listeners had noted in their responses that when the accordion sound returned later in the piece it was suddenly interrupted, as if the "annoying" accordion player had been hit over the head, or his accordion had been smashed by a bystander. When played this particular section during the post-testing discussion many listeners found the section amusing and suggested that the composer had intentionally composed this element as a humorous one.

3.1.5 Listening schema.¹⁰⁸

As there was a narrative structure identified by many InEx listeners in *ABZ/A*. It is possible to create a listening schema based on the identification of sounds by the InEx group. All responses listed are those of InEx listeners.

¹⁰⁸ A listening schema has been created for both *ABZ/A* and *Deep Pockets*. As most listeners did not detect an episodic structure in *Nocturne* a listening schema has not been created for this work.

FIGURE 7

LISTENING SCHEMA – *ABZ/A*.

Listening schema - 'ABZ/A'.		
Structural Sections	Timeline	Sounds
1	0.00-0.02	Opening gesture: something falling over, guillotine, fast forward sound.
	0.02-0.18	Café, pub, bar.
	0.18-0.21	Moving outside, gulls.
	0.22	Door shutting.
2	0.28-0.34	Car crash – accident, "The Matrix", sounds very tubular.
	0.34-0.43	Cars passing.
3	0.43-0.59	Airport announcement, airport, tube station.
4	1.00-1.13	Door, jingles.
		Machine humming, high-pitched squeaks.
5	1.13-1.55	Fire alarm, pedestrian crossing, high street, people talking and walking, busker, fairground music, French-style accordion, accordion playing in the street by the sea, French seaside town.
6	1.55-2.10	Seaside, seafront, waves crashing on beach.
7	2.10-2.32	Plane flying, road, cars going by, rollercoaster.
8	2.32-2.46	Bus.
9	2.46-3.59	Strong wind sound like a train going through a tunnel, distorted road noises that sound like aircraft or a spaceship, travelling through wires, rain sounds.
		Helicopter – sea rescue.
		Long loud weird sound like a nightmare.
		Sounds of work.
10	3.59-4.10	Screams turn into seagulls, rain stick.
11	4.10-4.19	Back to the seaside and accordion.
		Accordion player hit over the head, breaking the accordion.
12	4.19-5.05	Kids voices, children playing in the waves.
		Footsteps on wood, footsteps on pier.
		Creaking swing in park by seaside, lonely swing sound.

Figure 7

3.1.6 Accessibility – statistical analysis of directed listener response questionnaire responses (questions 9-12).

Responses offered in DQ9-DQ12 have revealed that some questions are more useful than others in terms of establishing the accessibility of the work. Question 11, that asks if the listener would purchase a CD containing similar work, has not taken into account the variances of CD purchasing behaviour. Most listeners responding to question 11 based their responses on their CD purchasing habits, rather than on the work itself. This issue has resulted in the results from question 11 being eliminated from the access statistics. Question 12, concerning concert attendance, is also problematic, but less so than question 11. Concert attendance is something that some listeners do regularly and others not, or never. Many of the younger, musically educated listeners often attend popular music ‘gigs’ and clubs with live DJ¹⁰⁹ sets. Whereas many of the non-musically educated listeners, particularly the older listeners (30+ years) did not, or had not attended a concert of any kind. However, a positive answer to question 12 is an indication of accessibility and so results from this question have been included. The following tallying scheme has been used for questions 9, 10 and 12. A ‘no’ response (-) to all three questions is recorded as a ‘no’ response (-) in the statistical data. A ‘yes’ response in one category, or any combination of ‘possibly’ responses (+/-) is recorded as an ‘undecided’ response (+/-), and two or more ‘yes’ responses is recorded as a ‘yes’ response (+).

¹⁰⁹ DJ is an abbreviation of disc jockey.

TABLES 9,10,11 AND 12

DATA CONCERNING RESPONSES TO QUESTIONS 9, 10 AND 12 IN THE DIRECTED QUESTIONNAIRE FOR EACH USER GROUP – *ABZ/A*.

'ABZ/A' accessibility data - DQ9, DQ10, DQ12 (InEx core group)				
Participant	Q9	Q10	Q12	Combined result
1	+	+	+	+
2	+	+	+	+
3	+	+	-	+
4	+	+	-	+
5	+	+	-	+
6	+	+	-	+
7	+	-	+/-	+/-
8	+	+	+	+
9	+	-	-	+/-
10	+	+	-	+
11	+	-	-	+/-
12	+	+	-	+
13	+	+	+	+
14	+	+	+/-	+
15	-	+	+	+
16	+	+	+	+
17	+	+	+	+
18	+	+	+/-	+
19	-	-	-	-
20	+	-	-	+/-
Total +	18	15	7	15 (75%)
Total -	2	5	10	1 (5%)
Total +/-	0	0	3	4 (20%)

Table 9

'ABZ/A' accessibility data - DQ9, DQ10, DQ12 (InEx supplemental group)				
Participant	Q9	Q10	Q12	Combined result
1	+	-	-	+/-
2	-	-	-	-
3	+	-	-	+/-
4	+	+	-	+
5	+	+	-	+
6	+	+	+	+
7	+	+	+/-	+
8	+	-	-	+/-
9	+	+	-	+
10	+	+	+	+
11	+	+	-	+
12	+	+	-	+
13	+	+	+	+
Total +	12	9	3	9 (69%)
Total -	1	4	9	1 (8%)
Total +/-	0	0	1	3 (23%)

Table 10

ABZ/A' accessibility data - DQ9, DQ10, DQ12 (Ex group)				
Participant	Q9	Q10	Q12	Combined result
1	+	+	+	+
2	+	+	+	+
3	-	+	+	+
4	+	-	+	+
5	+	-	+	+
6	-	-	-	-
7	+	+	+	+
8	+	+	-	+
9	+	+	+	+
10	+	+	+	+
11	+	+	+	+
12	+	+	+	+
13	+	-	-	+/-
14	-	+	-	+/-
15	+	+	+	+
16	+	+	+	+
17	+	-	+	+
18	+	+	+/-	+
19	-	+	+	+
20	-	-	-	-
Total +	15	14	14	16 (80%)
Total -	5	6	5	2 (10%)
Total +/-	0	0	1	2 (10%)

Table 11

ABZ/A' accessibility data - DQ9, DQ10, DQ12 (HiEx group)				
Participant	Q9	Q10	Q12	Combined result
1	+	+	+/-	+
2	+	+	+	+
3	+	+	+	+
4	+	+	+	+
5	+	+	+	+
6	+	+	+	+
7	-	+	+	+
8	-	+	+	+
Total +	6	8	6	8 (100%)
Total -	2	0	0	0 (0%)
Total +/-	0	0	1	0 (0%)

Table 12

Combined results for ABZ/A – 61 listeners tested.

Total Positive Responses (+) 48 (78%)

Total Negative Responses (-) 4 (7%)

Total Undecided (+/-) 9 (15%)

When asked what the most engaging aspects of the work were, listeners offered responses in the following categories (note that some listeners offered responses in more than one category):

Real world imagery created by the sounds. 7InEx/NM “it created images in my mind like I was there”.

Thirty-two responses – twenty-four InEx (73% of group/75% of core group) and eight Ex (40% of group).

Narrative Journey. 8InEx/NM “I liked how I was taken on a journey through different scenes, it kept changing so it didn’t get boring”.

Eighteen responses – eleven InEx (33% of group/35% of core group), six Ex (30% of group) and one HiEx.

Sound transformations. 2InEx/NM “how the sounds seemed to change into other sounds”.

Fifteen responses – three InEx (9% of group/5% of core group), ten Ex (50% of group) and two HiEx.

Sound Juxtaposition. 4HiEx “the composer’s interesting combination of natural and non-natural sounds”.

Eight responses – five Ex (25% of group) and three HiEx.

Nine Ex listeners (45% of group) acknowledged their enjoyment of the compositional virtuosity, e.g., 15Ex “the composer’s use of structure, transformations and pacing carried me through an engaging audio journey”. Six HiEx listeners also noted compositional virtuosity as a main point of interest. E.g., “The pace was good, textures changed just in time before tiring of them”; only Ex and HiEx listeners noted that they enjoyed the work from a compositional perspective.

Three InEx (9% of group/10% of core group), five Ex (25% of group) and two HiEx listeners stated that they found the work uninteresting. The reasons offered ranged from the simply stated, “boring” and “it’s just everyday sounds” to the one HiEx listener who stated that it was uninteresting due to a “clichéd use of field material”. This a good example of how the HiEx listeners tended towards a critique of the composed facets of the work, of how well the composer had used his materials.

Access statistics for *ABZ/A* demonstrate that the work is accessible to all audiences represented by the user group participants. Positive InEx listener responses for DQ10 were at 73% (75% for the core group), Ex listeners were at 70%; indicating that most InEx listeners in this group were open to listening to other works of the type represented by *ABZ/A*.

3.2 Deep Pockets.

The text that usually accompanies the work.

Larisa Montanaro: “Roll into your favorite bar, grab a pint of brew (don’t forget to throw some change into the tip jar), and shoot some pool. Slice the three into the side and put some backspin on the four – you’ve never heard the game sound like this before.”

Composer intention questionnaire responses.

List of sound source(s)/source material

Composer’s response:

Nearly all of the sounds were recorded at the pool table and in some cases, inside the pool table. I used a drum roll at the beginning and later in the piece I use some crowd noise from the bar where I recorded the pool table.

What were your intentions concerning this particular composition?

Larisa Montanaro: I wanted the listener to hear the game of pool in a new light. I wanted them to hear the inherently musical characteristics in these sounds – the percussive nature of the balls hitting and the sustained rolling sound. I include crowd noise because that is also part of the sound environment when playing a game of pool. Most pool tables are located in noisy bars and pool halls.

What methods are you using to communicate these intentions to the listener?

LM: Overall, I think I am relying on the recognizable aspects of the sounds to bring across its meaning, while the sonic manipulations comment on many of the sounds’ inherent characteristics.

Is there a narrative discourse involved?

LM: No.

Where did the inspiration to create this particular composition come from?

LM: I play pool often and I think the sounds created are just great, so while playing pool one night I decided to compose a ‘study’ so to speak. I made my first sketch on a bar napkin.

To what extent and how, did your initial intention change as the compositional process progressed?

LM: Initially I intended on being a purist and only using the sounds from the game itself.

What influenced these changes of intention?

LM: Once I began composing I decided that I wanted to portray the feeling of being in the bar playing pool because so much of the experience is your environment. For instance, the crowd generally appears with quite a bit of reverb because I wanted to give the feeling of being in a smoky bar with the sound floating through the air like smoke.

Is it important to you that your composition is listened to with your intentions in mind and why?

LM: No. I'd like to hope that they would figure out what it's supposed to be about.

Is/are there something(s) in the composition that you want the listener to hold on to and why?

LM: No.

[Note that other CIQ responses indicate that there are certain SHFs, e.g., recognised sounds, "I am relying on the recognizable aspects of the sounds to bring across [the] meaning", "I thought that by using a sound source that is familiar to a large group, that it might make the music more interesting to the general public" and inherent musical characteristics, "I wanted the listener to hear the game of pool in a new light. I wanted them to hear the inherently musical characteristics in these sounds – the percussive nature of the balls hitting and the sustained rolling sound", "the sonic manipulations comment on many of the sounds' inherent characteristics".]

How much do you rely on the title as a tool with which to express your compositional intentions and why?

LM: I don't rely on the title. I rely on mood and characterization.

Do you rely on any other accompanying text, in the form of programme notes, to outline your intentions prior to the listener's engagement with the composition and why?

LM: I give a little scenario in order to put them "in the mood", but it is not necessary for their enjoyment.

Who is your intended audience for this composition?

LM: All audiences. I thought that by using a sound source that is familiar to a large group, that it might make the music more interesting to the general public.

How is your compositional process influenced by the intended audience, if at all?

LM: I wanted to keep the sounds somewhat recognizable so that the audience could experience the process of hearing familiar sounds in a new light.

How important is it that the technical processes involved in the composition are recognised by the listener and why?

LM: I'm not really big on discussing all of technical aspects of the piece. I think most people could care less and those who do want to know can ask me.

Do you think that detectable technical processes are an integral aspect of the composition's overall aesthetic?
LM: No, the bottom line is that I am writing music – not creating and implementing technical processes.

3.2.1 The listening experience – first listening responses for *Deep Pockets*.

The majority of first listening experiences involved the identification of recognisable sounds described by way of the source/cause of the sound, “balls rolling, drum roll, snooker¹¹⁰ game, potting balls”, and/or the identification of an inside location/ambience, “crowded room”, “a bar, a pool hall”.

TABLE 13

THE MOST OFTEN IDENTIFIED SOUNDS FOR ALL THREE USER GROUPS IN *DEEP POCKETS*.

InEx core & supplemental groups combined - most often identified sounds in first listening - 'Deep Pockets'		Ex user group - most often identified sounds in first listening - 'Deep Pockets'		HiEx user group - most often identified sounds in first listening - 'Deep Pockets'	
Sound	Number of responses	Sound	Number of responses	Sound	Number of responses
Pool/snooker game sounds	18	Voices	15	Voices	5
Bar/pool hall ambience	16	Pool/snooker game sounds	13	Pool/snooker game sounds	3
Voices	15	Drum roll	12	Bar/pool hall ambience	3
Drum roll	15	Bar/pool hall ambience	10	Money in slot	3
Pool balls colliding	11	Pool balls colliding	8	Mechanical/machinery	3
Pool balls potted	9	Balls releasing	6	Pool balls general	2
Balls rolling inside table	9	Mechanical/machinery	6	Pool balls hitting	1
Cue striking ball	5	Cue striking ball	5	Balls rolling general	1
Money in slot	5	Balls rolling inside table	4		
Balls rolling general	5	Pool balls potted	3		
Balls releasing	4	Pool balls general	3		
Mechanical/machinery	4	Money in slot	3		
Pool balls general	2	Balls rolling general	3		

Table 13

The majority of sounds identified by the InEx, Ex and HiEx listeners were those generated when playing a game of pool. These were mentioned either in general terms, e.g.,

¹¹⁰ The game of snooker is very similar to the game of pool.

1InEx/NM “a pool game being played”, or as pool related sounding objects, e.g., balls colliding, balls potted, balls rolling, balls releasing, money in slot, etc. Many listeners also detected the ambience of an inside location (most often described as a pool hall or bar environment), and the sound of voices (this sound was also linked to the idea of being in a bar/pool hall environment). A significant number of listeners also identified the sound of a drum roll, and sounds that were described as mechanical or as coming from some kind of machine (both of which were understood as relating to playing the game of pool).

The most interesting set of first listening responses were those concerning the detection and interpretation of spatiality, both the reverberative quality of some of the sounds and the use of panning. In the InEx group, nineteen listeners (58% of group/55% of core group) identified and described elements of the sounding content from a reverberative perspective. Most InEx listeners used simple descriptive terms such as, “echoing sounds”, “spacious sounds”, “hollow sounds”, and some involved image-based descriptions, e.g., “something dropped in a deep, dark hole”. Twenty-four InEx listeners (73% of group/70% of core group) detected the use of panning, e.g., “some sounds seem to move around”. Of these twenty-four, eleven commented on the effect that their detection of panning had on their listening experience, e.g., 6InEx/NM “pool ball sounds come from different directions, moving around, like I’m in the middle of the table”.

100% of the Ex and HiEx listeners detected the use of reverb-based spatialisation and panning in the work. Unlike the InEx group, most of the Ex and HiEx listeners described these aspects from a technical perspective, e.g., “reverb”, “delay”, “reverse decay”, “panning”. In contrast to the InEx group, the Ex and HiEx group, tended to interpret the spatial qualities of the sounds as artificial, composed effects, and so felt that they were a part of the composer’s musical exploration and abstraction of the sounding world.

DQ1 – What might this piece be about?

TABLE 14

INEXPERIENCED CORE USER GROUP RESPONSES TO THE QUESTION, ‘WHAT MIGHT THIS PIECE BE ABOUT?’ (DQ1) IN *DEEP POCKETS*.

DQ1. InEx core user group - 'Deep Pockets'	
Listener number	Response
1	Pool game being played in a bar.
2	Someone running around a large, old house searching for something important.
3	A snooker club which serves food and has a bar where people can socialise.
4	Playing pool or snooker in a bar.
5	Playing pool near a train station.
6	The relationship between the player and the game of pool.
7	How someone feels in an unfamiliar environment.
8	Not sure.
9	A games room.
10	Playing pool.
11	A game of pool.
12	The sounds inside a vending machine in a bar.
13	A game of pool.
14	A pool table in a pub.
15	A person playing pool.
16	Nothing. Just random chaos.
17	Pool being played.
18	Everyday life, changes from loneliness and solitude to social life. The speed of life and how things change quickly.
19	A wartime bombing.
20	It was unnatural and random.

Table 14

TABLE 15

INEXPERIENCED SUPPLEMENTAL USER GROUP RESPONSES TO THE QUESTION, ‘WHAT MIGHT THIS PIECE BE ABOUT?’ (DQ1) IN *DEEP POCKETS*.

DQ1. InEx supplemental user group - 'Deep Pockets'	
Listener number	Response
1	Travelling through a building, through vents and pipes.
2	Youth culture, pubs and bars, people enjoying themselves. Telling the story of a game of pool between friends.
3	Shady aspects of life.
4	Pool.
5	A portrait of an empty life. The parts of the person’s day that go through their head at night.
6	Contrast between emptiness, loneliness and togetherness.
7	A pool game in a pool room, the individual's experience of the competition.
8	Trying to convey different feelings about imprisonment.
9	Surreal pool game in a pub.
10	Confusing!
11	Just random.
12	Playing pool.
13	Being drunk while playing pool in a pub.

Table 15

TABLE 16

EXPERIENCED USER GROUP RESPONSES TO THE QUESTION, ‘WHAT MIGHT THIS PIECE BE ABOUT?’ (DQ1) IN *DEEP POCKETS*.

DQ1. Ex user group - 'Deep Pockets'	
Listener number	Response
1	A close-up perspective of the journey of a ball in a game of pool.
2	An exploration of sounds produced by the game of pool.
3	Adding effects to a pool game.
4	A snooker game.
5	Going bowling or to a pool hall.
6	Not sure.
7	Walking out of the house and going to the pub.
8	A pub environment.
9	The sounds in a bar recorded from inside a machine.
10	Recording a game of snooker/pool and manipulating it.
11	Mechanical sounds and the movement of objects. Some kind of journey through different sized spaces or rooms.
12	A game of pool in a pool hall.
13	A pool match in a pool hall.
14	A pool game represented in sound.
15	A day in the life of a cruise liner?
16	The exploration of sound timbre.
17	Extracting inconsequential sounds from common situations and altering them.
18	Textural quality of sounds.
19	A pool or snooker match in a hall.
20	The sounds of moving through pipes and arriving in different rooms.

Table 16

TABLE 17

HIGHLY-EXPERIENCED USER GROUP RESPONSES TO THE QUESTION, ‘WHAT MIGHT THIS PIECE BE ABOUT?’ (DQ1) IN *DEEP POCKETS*.

DQ1. HiEx user group - 'Deep Pockets'	
Listener number	Response
1	Exploration of the physical nature of the materials.
2	A drunken evening out?
3	It's about the sounds of snooker balls and a pub.
4	Maybe travel by tube train?
5	Impulse and resonance.
6	It was abstract, no reference.
7	Time, movement, mechanical movement, circular movement.
8	A train station.

Table 17

Seven listeners (11% of total – five InEx, one Ex and one HiEx) were unsure as to what the work might be about.

Interpreting listener interpretations of the work's theme during the first listening experience.

TABLES 18, 19 AND 20

RESPONSES ORGANISED INTO THEMATIC CATEGORIES FOR EACH USER GROUP – *DEEP POCKETS*.

DQ1. InEx core and supplemental user group responses combined - 'Deep Pockets'	
Category	Responses
Playing pool	17
Loneliness and emptiness	3
Moving through locations	2
Sounds in a bar location	1

Table 18

DQ1. Ex user group responses combined - 'Deep Pockets'	
Category	Responses
Playing pool	10
Sounds in a bar location	3
Composed sound	6
Moving through locations	2

Table 19

DQ1. HiEx user group responses combined - 'Deep Pockets'	
Category	Responses
Composed sound	3
Playing pool	1
Sounds in a bar location	1

Table 20

Combining the results for Tables 18, 19 and 20 reveals that the most prevalent general themes identified as what the work might be about were:

Playing a game of pool (28 responses – 56% of those who offered an interpretation).

Compositional process (9 responses – 18%).

Sounds in a bar location (5 responses – 10%).

Moving through locations (4 responses – 8%).

A sense of loneliness and emptiness (3 responses – 6%).

As demonstrated in Table 13 the majority of sounds identified by most listeners were those concerning the sounds generated when playing a game of pool and the ambience of a bar/pool hall environment. Cross-referencing these most recognised sounds with the combined responses in Tables 18, 19 and 20 demonstrates that the recognised, real-world sounds relating to playing a game of pool in a pool hall/bar were the predominant elements used by the majority of InEx and Ex listeners to interpret the communicative aspects of the work.

The first section of *Deep Pockets* (0.00-1.53) follows the progression of a game of pool from a real-time perspective. It begins with money being inserted into the table, the balls being released into the table tray, the balls being racked up on the table, a drum roll into the first shot, balls being potted and balls rolling down inside the table. This identified narrative progression establishes a strong provenance and theme for the work, particularly for those listeners who had had the experience of playing a game of pool in a bar/pool hall.

The *composed sound* responses offered by the Ex and HiEx listeners, for example, 2Ex “it takes recognisable sounds and does interesting things with them”, 16Ex “the

exploration of sound timbre”, 1HiEx “exploration of the physical nature of the materials”, were based on a combination of three factors:

- 1) The identification of the provenance of the sound world.
- 2) The identification of a predominance of individual natural and processed sounds. These sounds were not only combined into a general soundscape – being part of a pool hall ambience – but were also listened to as individual sounding objects.
- 3) The recognition that the processed sounds were transformed versions of the natural sounds, e.g., 2Ex “the sounds become less recognisable but suggest the same real sounds”.

These three identification factors resulted in a *compositional process* interpretation – that the composer was exploring the sounds of playing pool in terms of their acoustic properties and was using these properties in a musically organised manner.

The listeners who offered a *moving through locations* interpretation were holding on to the varying acoustic and spatial quality of the sounds combined with their episodic occurrence over time. These listeners did not identify that all of the sounds (natural or processed) were pool-playing sounds based in a single location. Listener 1InEx/NM-DP interpreted certain reverberative sounds (of the type heard in the first forty seconds of the work) as “echoing metallic sounds”, which he interpreted as sounding like “a ventilation system”. He also interpreted the episodic occurrence of spatially varied sound environments as “various rooms”. Through these four particular factors (timbral quality, spatiality, episodic characteristics and temporal progression) he established his interpretation, “travelling through a building, through vents and pipes”. Similarly, listener 11Ex’s interpretation “some kind of journey through different sized spaces or rooms” was based on his detection of “large and small sounding spaces” occurring over a period of time. The identification factors in this case were spatiality and episodic temporal progression.

Listeners who offered a *loneliness and emptiness* interpretation held on to their interpretation of the reverberative characteristics of some sounds as sounding empty, e.g., “there was a hollow emptiness to the sounds”, and combined this with their detection of a two-part, sectional structure to the work. Listener 6InEx/NM-DP’s “contrast between

emptiness, loneliness and togetherness” interpretation was based on her identification of “two scenes – an empty room, dark and gloomy, eerie [a reverberation-based interpretation of many of the processed sounds and sections] and a room full of people, warm and cheerful [based on the identification of multiple voices in an inside location, interpreted as a pleasant social situation]”. Listener 6InEx/NM offered an interesting series of responses relating to this dual aspect of the work, while holding on to the pool playing content, “a guy playing on his own, he is caught up in the game, he loses his sense of where he is, he gets so immersed in what he is doing [natural and processed sound object sections]...and then realises he’s back in the bar/room...the background noises [environmental sounds], brought me back from the image of isolation and being alone”.

Comparing first listening experiences with the pertinent aspects of the composer’s communicative intentions.

Many aspects of the composer’s communicative intentions, those described in the CIQ, have been fully or partially experienced by the listeners to varying extents. Analysis of response data has revealed the extent to which source sounds used by the composer were identified by all listeners, from all groups during the first listening. Identified source sounds have been **highlighted** in the sound source information provided by the composer.

“Nearly all of the sounds were recorded at the pool table and in some cases, inside the pool table. I used a drum roll at the beginning and later in the piece I use some crowd noise from the bar where I recorded the pool table.”

All of the primary sound sources used by the composer were identified by most listeners. Forty-eight listeners – twenty six InEx (79% of group), seventeen Ex (85% of group) and five HiEx – identified the sounds as those generated when playing pool or snooker. The ambience of being in a bar or in a location with a number of people was identified by fifty listeners – twenty-seven InEx (82% of group), eighteen Ex (90% of group) and five HiEx.

The sound of a drum roll was recognised by sixteen InEx listeners (48% of group/45% of core group) and twelve Ex listeners (60%). The drum roll sound stands out from the sounding content of the work as it is not a pool playing sound, and so it appears to

be out of acoustic and anecdotal context, although it has been interpreted as having a dynamic and emotive significance. During the first listening the drum roll sound was interpreted as signifying the anticipation and tension of playing a shot by two InEx and three Ex listeners. This number increased by twelve in the second listening and by eleven in the third listening indicating that as more listeners identified the provenance of the work the more they could relate the drum roll to the context of the work. The use of the drum roll sound was not described by the composer as signifying the tension or anticipation of taking a shot. She may not have thought to mention this.

Six listeners (two InEx and four Ex) suggested that some sounds were from inside the table. Four of these six (two InEx and two Ex) noted that they felt as if they were hearing the sounds from the perspective of being inside the table. Five listeners noted that they felt like they were hearing sounds from inside some kind of machine. In this case combining the identification of mechanical sounding sounds with the close-up quality and reverberative characteristics of the sounds.

Mapping listener responses on to the composer's communicative intentions.

The composer wanted the listeners to have a dual listening experience, firstly the feeling of “being in a bar playing pool”, an image-based scenario. She notes that much of the experience of playing pool is the social environment in which the game takes place; the soundscape of this environment (in the real situation) is a fundamental part of the experience. She uses the recognisable aspects of the sounds to bring this meaning across. As discussed above, the majority of listeners had precisely this listening experience based on their detection and identification of real-world sound references and their use of these as SHFs through which to develop an image-based interpretation of the sounding content. Responses to DQ4 reveal that thirty InEx (91% of group/75% of core group), sixteen Ex (80% of group) and four HiEx listeners had an image-based listening experience either of playing a game of pool or of being in a busy bar location.

The composer wanted the listener to experience the sounds of the game itself, as sound objects.¹¹¹ She wanted them to hear “the inherently musical characteristics in [the] sounds – the percussive nature of the balls hitting and the sustained rolling sound”, supplemented through “sonic manipulations [that] comment on many of the sounds’ inherent characteristics”. The detection of this communicative intention by the listeners was not as prevalent as the image-based interpretation.

Three Ex and three HiEx listeners suggested that the work was about exploring the sounds in terms of their timbral and textural qualities, e.g., 16Ex “the exploration of sound timbre”, 1HiEx “exploration of the physical nature of the materials”, 2Ex “the exploration of sounds produced by playing pool. [The composer] takes recognisable sounds and does interesting things with them”. Three Ex listeners felt that the work was about the manipulation of the sounds, e.g., 3Ex “adding effects to a pool game”. Four listeners (two InEx, one Ex and one HiEx) focussed on the sounds of the game. 7InEx/NM “the sounds of the ricochets seemed to be more individual sounds than you usually hear, it did not seem like a simple sound but was more complex than usual”. 13InEx/NM “sounds of the table have been accentuated”. 1Ex “a zoomed perspective – first into the ball then into the table, then zoom out to the place where the game is played – bar”. These thirteen listeners represent 21% of all the listeners tested – and included two InEx (10% of core group), seven Ex (35% of group) and four HiEx (50% of group) listeners. No InEx listeners noted that the work was specifically about the musical qualities or the inherent acoustic qualities of the pool sounds; fifteen InEx listeners (45% of group/50% of core group) did comment with interest on the unnatural sounding elements, several offered basic descriptions and emotive interpretations of their sounding quality, e.g., “strange sounds”, “metallic”, “sci-fi sounds”, “I get an eerie feeling”. Four InEx listeners and six Ex listeners did identify percussive and rhythmic elements; e.g., listener 7InEx/NM-DP who noted that he enjoyed the “rhythms that were created out of the sounds”.

¹¹¹ The sounds are being used as sound objects in terms of exploring their acoustic characteristics and composed musicality, not from a purely acousmatic perspective. The composer wants the listener to hold on to their real-world relevance and not to reject their identity as sounds from a game of pool.

3.2.2 Second listening responses – the influence of the title on the listening experience.

The title of the work (*Deep Pockets*) when presented to the listeners prior to the second listening influenced listening experiences in several ways.

Changed interpretation – this classification concerns listeners who had an initial interpretation as to what the work might be about after the first listening, but who then changed their interpretation to comply with their interpretation of the title.

Six InEx (18% of group/15% of core group), four Ex (20% of group) and two HiEx listeners changed their original interpretation during the second listening indicating that they now felt that the work was about playing a game of pool. A typical example of this is listener 7InEx/NM who after the first listening suggested that the work might concern “how someone feels in an unfamiliar environment”. His second listening responses reveal how he has used the title of the work as a SHF through which he has re-evaluated the content of the work, in terms of the pertinent sounds. 7InEx/NM, RTQ2 “Balls out of the table, being racked up, drum roll to first shot in pocket, chalking cue, maybe a timer clicking, balls rolling and racking up under table, getting louder and louder building up to final shot, lots of people around, heart racing”. When presented with the title (particularly the word ‘pockets’¹¹²) and having identified the sound of pool balls in the first listening, he has decided that the pool playing sounds might be the most pertinent in terms of what the work might be about. He has changed his interpretation to “playing snooker/pool in a bar/pub – a competitive game”. Note that his interpretation of the drum roll as an anticipatory gesture, his identification of a timer, the increasing loudness of the sounding content and the presence of “lots of people” (perhaps watching the game) have been used as SHFs to establish his notion of “a competitive game”.

Three other listeners changed their interpretation during their second listening. These listeners felt that the work was about the sounds from inside the pocket of an item of clothing. 1InEx/NM-DP “noises heard when travelling in someone’s pocket. The point of

¹¹² A pool table has six pockets (holes) into which the players attempt to hit (pot or sink) the balls.

view of a coin”, 18Ex “the sounds made in our pockets, the small sounds that we are unaware of” and 7Ex “the soundscape inside pockets – objects coming in and out of pockets”. Having not related many of the identified natural and manipulated sounds to those coming from the game of pool in either the first or second listening, these listeners have held on to the detailed, intimate, microscopic quality of the sounds. This SHF, when combined with the title, has led to these particular second listening interpretations. These three responses support the results from *ABZ/A* concerning how the title can mislead the interpretation of a listener who has not accurately identified the provenance of the sounding content or who does not understand the meaning of the title itself.¹¹³

Enhanced interpretation – Seven InEx (21% of group/25% of core group), nine Ex (50% of group) and one HiEx listener had an enhanced listening experience that influenced their interpretation of the work during their second listening. A typical example being listener 1InEx/NM who in his first listening suggested that the work might be about a “pool game being played in a bar”. Having been given the title this listener has held on to the notion of deep pockets, interpreting it as being inside the deep pockets of the table and combined this interpretation with his identification of the close-up nature of the sounds and their spatial context. This is confirmed by his second listening notes (RTQ2) “the images are focussed inside the pool table, I imagined going through the table, the balls sound like they are rolling around above me”. This has led to his second listening interpretation, “the sounds experienced from inside the workings of a pool table. The listener is based inside the table”.

Reinforced interpretation – Eleven InEx (33% of group/30% of core group), five Ex (25% of group) and two HiEx listeners used their second listening experience to reinforce their original interpretation. These listeners felt that the work was about a game of pool in the first listening and the title confirmed this idea.

¹¹³ I have identified this problem of title misinterpretation as being a slight flaw in the I/R methodology (refer to chapter 3.1.2). It will be necessary for those using the I/R methodology in other projects to offer the listeners some explanation as to the meaning of a work’s title at the second listening phase.

Developed interpretation – this classification concerns listeners who offered no interpretation as to what the work might be about after the first listening, but who developed interpretations based on their interpretation of the title during the second listening. All of the listeners who did not offer an interpretation as to what the work might be about following the first listening did so following the second listening. These responses are listed below:

8InEx/NM “deep pockets in the mind...someone in a prison, with a mind in turmoil”

16InEx/M “a pool game”.

20InEx/M “snooker/pool, social orientated”.

10InEx/M-DP “the secret world inside the pool table”.

11InEx/M-DP “inside a pool table”.

6Ex “a pool game”.

6HiEx “snooker/pool with an inward look”.

Six of these seven listeners suggested that the work was about the game of pool. These responses demonstrate a consistency in the listening experience and in the interpretation of the work’s communicative content as they are consistent with the predominant interpretations offered by listeners during the first listening.

RTQ2b – Did the title assist the listening experience?

Seventeen InEx (52% of group/50% of core group), eight Ex (40% of group) and one HiEx listener noted that the title helped them to suggest what the work might be about.

Twelve InEx (36% of group/40% of core group), six Ex (30% of group) and four HiEx listeners noted that the title helped them identify certain sounds.

Three InEx (9% of group/5% of core group) four Ex (20% of group) and two HiEx listeners noted that the title did not help.

Listener response data reveals that thirty InEx (97% of group/85% of core group), sixteen Ex (80% of group) and six HiEx listeners held on to the title and its meaningful

significance in relation to the content of the work during the second listening, whether or not it influenced their interpretation of what the work might be about.

The identification and interpretation of pertinent sounds relative to the composer's intentions during the second listening.

Following the second listening, twenty-one listeners from all groups (those who had offered no interpretation during the first listening or who had changed their first listening interpretation) suggested that the work was about playing a game of pool. Fifteen of these listeners were from the InEx group. Following the first listening seventeen InEx listeners (52% of group/50% of core group) suggested that the work was about a game of pool, following the second listening this number had increased to twenty-eight listeners (85% of group/90% of core group). Written responses indicate that repeated listening and/or the title had substantially assisted the listening experience in relation to this principal aspect of the composer's communicative intention.

Twenty listeners from all groups (33%) had an enhanced listening experience that involved hearing the sounds from the perspective of inside the pool table. Nine of these listeners were from the InEx group. Following the first listening two InEx listeners identified sounds as those coming from inside the pool table, following the second listening this number had increased to eleven. An example of this was listener 10InEx/M-DP who noted that the work "focuses on the pool table, down the deep pockets". In this case, the listener has held on to the pool table sounds, their close-up, magnified quality and combined this with his "down the deep pockets" idea inspired by the title. Written responses indicate that the title was most influential in this particular interpretation, although some listeners indicated that the close-up quality and reverberative characteristics of the sounds indicated a feeling of being inside the table.

Five listeners (including three InEx listeners) also had the sense of hearing sounds in intimate, magnified detail, e.g., 17InEx/M "close up sounds of a single ball on the table and inside the table" Three InEx listeners also noted that some sounds were being used rhythmically, e.g., 6InEx/NM "the pool sounds are made to have a rhythm".

Twenty-two listeners (including nine InEx listeners, an increase from two in the first listening) had enhanced responses relating to the acoustic quality of the sounds, rather than experiencing them as part of a generalised pool playing soundscape (as did most listeners in the first listening). These responses are moving towards the composer's communicative intention concerning the exploration of the sounds' inherent musicality and interesting acoustic properties.

Results concerning the second listening experience demonstrate that the title of the work in conjunction with repeated listening has enhanced the listening experience for the majority of listeners and has assisted them in identifying certain aspects of the work that are relative to the communicative intentions of the composer. The composer noted in CIQ11 that she does not rely on the title as a tool through which to express her compositional intentions, but on "mood and characterization". Listener responses to *Deep Pockets* indicate that the title was an important tool for many of the listeners in terms of establishing a better understanding of the provenance of the work, through which they have then engaged, in greater detail, with the mood and characterisation of the work.

3.2.3 Third listening responses – the influence of repeated listening and dramaturgic information on the listening experience.

For the third listening, listeners were offered all pertinent dramaturgic information selected from the CIQ.

Dramaturgic "something to hold on to" factors.

Many listeners held on to elements of the dramaturgic information during their third listening experience. The most prevalent elements were:

Musicality/acoustic quality of the sounds. Listener 13InEx/M-DP "gave me more insight into the sounds...I listened to how they sounded". Nineteen InEx (57% of group/55% of core group), sixteen Ex (80% of group) and two HiEx listeners used the dramaturgic

information to help them focus on and make sense of the inherent and composed musical/acoustic qualities of the pool sounds.

Environmental context. Listener 11InEx/M-DP “I now pictured the game of pool in a pub environment”. Eight InEx (24% of group/20% of core group) and six Ex (30% of group) listeners used the dramaturgic information to help them establish an image of the environment in which the sounding content was taking place.

The combination of acoustic quality and environmental context. Twelve InEx (36% of group/30% of core group) and twelve Ex (60% of group) listeners noted that the dramaturgic information helped them appreciate the dual intention of the work. That was the image-based experience of the pool playing environment and the aural experience of the musicality and acoustic quality of the sounds. Several interesting examples were offered: 3InEx/NM-DP “I could pinpoint where the main points were – the sounds of the balls, the rhythms and the strange close-up noises, the people and the sounds of having a good time”. 11Ex “The composer is trying to give the listener a different sound perspective to a regular social activity, the pub environment doesn’t become obvious until the second half of the piece, so the composer wants us to think about and explore the sounds we wouldn’t normally think about”. 15Ex “interesting how the piece begins within the table and then gradually moves outside”.

These results demonstrate that most listeners, having established the environmental context of the work during the first and second listening and not having understood the reason for the unnatural sounding content, used the composer’s ‘inherent musicality/acoustic quality’ intention as a SHF through which to explore the work during the third listening.

Dramaturgy – its role in assisting access and appreciation in Deep Pockets.

When asked if the dramaturgic information assisted the listening experience, twenty-five InEx (76% of group/75% of core group), twelve Ex (60% of group) and three HiEx listeners responded that it did. All of these listeners were able to relate aspects of the

dramaturgic information to the content of the work. The majority of these listeners used the information as a SHF to enhance their listening experience in terms of the work's sounding content, their exploration of its acoustic detail/quality, and their interpretation of its meanings. Four InEx, eight Ex and four HiEx listeners noted that they already knew what the work was about after the second listening and that the information simply confirmed their ideas (indicating that they did use the information in some way). Note that a higher proportion of Ex and HiEx listeners than InEx listeners felt that they understood the work by the second listening; this was consistent throughout all three works.

Most listeners acknowledged that they were able relate the dramaturgic information to the content of the work and that it enhanced their listening experience. Typical responses included, 4InEx/NM-DP "it helped me understand the environment of the piece and why some of the sounds were weird". 16Ex "it changed my listening approach, focussing on sounds rather than a hidden meaning". 4HiEx "made ideas clearer in terms of sound sources". The results from the third listening responses demonstrate that most listeners (in particular, a significant number of InEx listeners) used the dramaturgic information as a means through which to access and appreciate the work.

Repeated listening

Twenty-four InEx (73% of group/70% of core group), eighteen Ex (90% of group) and seven HiEx listeners noted that repeated listening helped them in some way, be it in a major or minor way. Typical responses included, 9InEx/NM "it helped me listen in more detail and think about what I was hearing", 5Ex "the more I listened the better I listened, so I understood more. I concentrated better" and 8HiEx "more critical listening equals more information". These three responses tend to typify, in a general manner, the type of response offered by listeners from the three groups (InEx, Ex and HiEx).

Fourteen InEx (42% of group/45% of core group), eight Ex (40% of group) and one HiEx listener noted that the title and dramaturgic information helped more than repeated listening. For example, 2InEx/NM-DP wrote "I knew more through the title and the

dialogue that went with it”, 18Ex adds “it was the information that helped me re-evaluate my ideas and discover what the piece was about”.

These results demonstrate that the majority of listeners had an enhanced listening experience through repeated listening, but also that a significant number of these listeners felt that the dramaturgic information was the *most* helpful factor.

3.2.4 Post-testing, group discussion notes.

The most interesting aspect of the post-testing discussions for *Deep Pockets* concerned the processed, manipulated and transformed sounding content in the work. The Ex and HiEx listeners tended to discuss these elements from a compositionally critical perspective. Whereas the InEx listeners tended to discuss how the processed sounds sounded, e.g., “the echoing sounds were like rhythms”, “like I was going from reality into a dream” and “it was like I was going inside the pool ball sounds”. This last statement stimulated an interesting discussion concerning the importance of dramaturgic information in assisting access and appreciation and resulted in the work being played again at the listeners’ request as they wanted to listen to the work again with the “going inside the pool balls sound” idea in mind. Most listeners, when relating this idea to the work, agreed that it made sense. Interestingly, this idea is precisely that of the composer, wanting the listeners to “hear the inherent...characteristics of the sounds”. Most listeners agreed that listening to the work with such ideas in mind made it easier to appreciate the transformed sounds. Many agreed that this was why their third listening experience was by far the most engaging, as by then they understood what the unnatural sounds were (transformed pool playing sounds) and why they were being used (focussing the listeners attention on the aesthetic qualities of the sounds). Many listeners noted that it was the way in which the real-time progression of the first section of the work (which directly established the pool playing provenance) led into the section containing processed sounds, that made the unnatural sounds make more sense because the listeners could hear how the natural and unnatural sounds were related, how one had developed out of the other.

3.2.5 Listening schema.

As there was a narrative structure identified by many InEx listeners in *Deep Pockets*. It is possible to create a listening schema based on the identification of sounds by the InEx group. All responses listed are those of InEx listeners. Each section contains both pool related and non-pool related descriptions where appropriate, demonstrating how listeners tended to find a means of identifying the sounding content from a real-world perspective. Note that from 2.26 to the end of the work, the description of pool playing sounds is not as prevalent as in the first half of the work. The section commencing at 2.26 contained very few recognisable pool playing sounds for the InEx listeners, many of these listeners who did not identify the unnatural sounds as transformed pool playing sounds used other descriptive means to identify the transformed sounds.

FIGURE 8

LISTENING SCHEMA – *DEEP POCKETS*.

Listening schema - 'Deep Pockets'.		
Structural Sections	Timeline	Sounds
1	0.00-0.03	Money in table/a camera.
	0.03-0.09	Balls released/something rolls down some stairs.
	0.11-0.24	Balls racked up/piano strings being hit.
	0.25-0.40	Drum roll into first shot/something hitting piano wires.
2	0.40-1.53	Chalking cue/timer clicking.
		Balls being potted/machinery.
		Pool balls descending inside table/drawers opening and closing.
		Getting louder and louder building up to final shot/something getting closer.
3	1.53-2.26	Going inside the pool table/something dropped in a deep dark hole.
		[As if] I'm inside the pool table/scary sounds.
		Ventilation system, steam.
4	2.26-2.49	Voices in the pool hall/voices in a train station.
		Vending machine.
5	2.49-4.10	Rhythmic sound, echoes, a rattlesnake, a bit frightening, a ghostly emptiness.
		Torture chamber, knuckles cracking.
		Pub atmosphere.
		Steam.

Figure 8

3.2.6 Accessibility – statistical analysis of directed listener response questionnaire responses (questions 9-12).

TABLES 21,22,23 AND 24

DATA CONCERNING RESPONSES TO QUESTIONS 9, 10 AND 12 IN THE DIRECTED QUESTIONNAIRE FOR EACH USER GROUP – *DEEP POCKETS*.

'Deep Pockets' accessibility data - DQ9, DQ10, DQ12 (InEx core group)				
Participant	Q9	Q10	Q12	Combined result
1	+	+	+	+
2	+	+	+	+
3	+	+	-	+
4	+	+	-	+
5	+	+	-	+
6	+	+	-	+
7	+	-	+	+
8	-	-	-	-
9	+	-	+	+
10	+	+	-	+
11	+	+	-	+
12	+	-	-	+/-
13	+	+	+	+
14	-	-	-	-
15	+	+	+	+
16	+	+	+	+
17	+	-	-	+/-
18	+	+	+	+
19	-	-	-	-
20	-	-	-	-
Total +	16	12	8	14 (70%)
Total -	4	8	12	4 (20%)
Total +/-	0	0	0	2 (10%)

Table 21

'Deep Pockets' accessibility data - DQ9, DQ10, DQ12 (InEx supplemental group)				
Participant	Q9	Q10	Q12	Combined result
1	+	+	+/-	+
2	+	+	+	+
3	+	+	+	+
4	-	-	-	-
5	+	-	-	+/-
6	-	+	-	+/-
7	+	+	+	+
8	+	+	+	+
9	+	+	+	+
10	+	-	-	+/-
11	+	-	-	+/-
12	+	+	-	+
13	+	+	-	+
Total +	11	9	5	8 (62%)
Total -	2	4	7	1 (8%)
Total +/-	0	0	1	4 (30%)

Table 22

'Deep Pockets' accessibility data - DQ9, DQ10, DQ12 (Ex group)				
Participant	Q9	Q10	Q12	Combined result
1	+	+	+	+
2	+	+	+	+
3	-	-	-	-
4	+	+	+	+
5	-	-	+	+/-
6	+	+	-	+
7	+	+	+	+
8	+	+	+	+
9	+	+	+	+
10	-	+	+	+
11	+	+	+	+
12	-	-	+	+/-
13	-	-	-	-
14	-	-	-	-
15	+	+	+	+
16	+	+	+	+
17	-	+	+	+
18	-	-	+	+/-
19	-	+	-	+/-
20	+	-	-	+/-
Total +	11	13	14	12 (60%)
Total -	9	7	6	3 (15%)
Total +/-	0	0	0	5 (25%)

Table 23

'Deep Pockets' accessibility data - DQ9, DQ10, DQ12 (HiEx group)				
Participant	Q9	Q10	Q12	Combined result
1	+	+	+	+
2	+/-	+	+	+
3	-	+	+	+
4	-	+	+	+
5	+	+	+	+
6	-	+	-	+/-
7	-	-	+	+/-
8	-	-	-	-
Total +	2	6	6	5 (63%)
Total -	5	2	2	1 (12%)
Total +/-	1	0	0	2 (25%)

Table 24

Combined results for Deep Pockets – 61 listeners tested.

Total Positive Responses (+)	39	(64%)
Total Negative Responses (-)	9	(15%)
Total Undecided (+/-)	13	(21%)

When asked what the most engaging aspects of the work were, listeners offered responses in the following categories (note that some listeners offered responses in more than one category):

Real world imagery created by the sounds. 11InEx/M-DP, “the real sounds caught my imagination, made lots of pictures in my mind”.

Twenty-two responses – twenty-two InEx (67% of group/70% of core group).

Curiosity/expectation as to where the aural journey would lead. 7InEx/NM, “it was like it was leading me somewhere, I wanted to know more”.

Twenty responses – fourteen InEx (42% of group/45% of core group), five Ex (25% of group) and one HiEx.

The composer’s use of sounds. 1InEx/NM, “I liked how the composer used the pool sounds in different ways, like it was music”.

Thirteen responses – eight InEx (24% of group/25% of core group), five Ex (25% of group).

Abstract sounds. 13InEx/NM, “I liked the weirdness of some of the sounds”.

Three responses – three InEx (two were from the core group).

Four listeners noted that the piece was engaging without offering a reason why (three InEx and one HiEx). One InEx listener mentioned that both the recognisable and unnatural sounds were interesting.

Six InEx (18% of group/20% of core group), nine Ex (45% of group) and five HiEx listeners stated that they found the work uninteresting. Most of these (twelve listeners) suggested that they lost interest in the work because it did not develop enough (all of these responses were from the Ex and HiEx listeners). Having detected the presence of transformed real-world sounds in the work, many listeners with E/A art music knowledge logically tended to listen to the work from a compositionally critical perspective, with particular focus on the composer’s technical/compositional virtuosity. Based on this critical approach, some felt that the compositional potential of the sound world had not been sufficiently explored. 10Ex “these compositions can be done well and are interesting, this is not”, 5HiEx “lost interest in sound world and handling of material”. Of the six InEx listeners who found it uninteresting, two simply stated that they found it “boring”, three

noted that there were too many noises (read: unnatural sounds) and one suggested that it was too repetitive.

Access statistics for *Deep Pockets* demonstrate that the work is equally accessible to all audiences represented by the user group participants. Positive InEx listener responses for DQ10 were at 64% (60% for the core group), Ex listeners were at 65%; indicating that almost two-thirds of the InEx listeners in this group were open to listening to other works of the type represented by *Deep Pockets*.

3.3 *Nocturne*.

The text that usually accompanies the work.

Simon Atkinson: “The Nocturne: music as an art of the night; the romantics’ and impressionists’ poetic evocations; Bartok’s sublime *Nachtsmusik*; the coming to life of the ‘small sounds’; the sharpening of the aural sense...

And historically through musique concrète’s surrealist tendencies and now contemporary acousmatics’ basis in the creation of a metaphorical ‘night’, it is perhaps in the studio that the ‘nocturnalism’ of music may flourish in the future.

In this piece it is, perhaps, as if the loudspeakers project into space a screen, latent with evocative potential, upon which the perceiver may then project their own impressions, reveries, daydreams. Imagistic transformations not realised with the computer in the studio are left as potentials in the mind of the active listener. The piece represents a compositional exercise in sounds *not* included...

Can sculptured sound evoke absent sound?

L’aile de la vue par tous les vents
Étend son ombre par la nuit
Paul Éluard

[The composer provided the following English translation:]

Winged sight by all the winds
Spreads its shadow by the night”

Composer intention questionnaire responses.

List of sound source(s)/source material

Composer's response:

Essentially resynthesized recorded sound (to the extent that it is, to all intents and purposes, synthesized...). This material [was] extensively worked upon in a 'sculptural' fashion. The only relatively recognisable material derives from recordings of mineral objects and surfaces (rock, slices of slate, large sea shells etc).

It may be pertinent to mention that the materials are all, in effect, 'by-products' of other compositions upon which I was working at the time.

What were your intentions concerning this particular composition?

Simon Atkinson: a) Creation of a metaphorical silence.

b) Minimalist-like tendency to create situation in which attention is drawn to the detail (rather than dramatic gesture) – and the normally overlooked (?)

c) To create an aural space in which the listener may be stimulated into projecting their own reveries and dreams onto the 'screen' offered by the composer.

d) There is the possibility of the listener's experience being informed by the tradition of the Nocturne (in intertextual analogy)

e) It was a conscious aim of the composition to produce something (dangerously?) 'fragile'.

What methods are you using to communicate these intentions to the listener?

SA: Low level of 'conventional' musical gesture/theatre/argument.

Nature of musical 'surface' and 'form'.

Are you relying on the recognisable aspects of the sounds to communicate meaning?

SA: No. But decisions have been made on the basis of sounds' anticipated ability to be evocative.

Are you using specific sonic manipulations to communicate these meanings?

SA: Not in the sense of listeners being able to infer meaning from the use of specific and recognisable techniques. However, specific sonic manipulations (e.g. convolution) have been consciously employed to create the 'right' kinds of materials and surfaces (especially the 'floating', 'dreamy' qualities to the music)

Is there a narrative discourse involved?

SA: Not really. (Although the intertextual sense of locating the music in relation to other Nocturnes, Nachtmusik, quiet music, lowercase sound etc. etc. could arguably be described as narrative)

How important is it that this narrative is received and why?

SA: Not at all.

Where did the inspiration to create this particular composition come from?

SA: Pure accident! (i.e., material suggested the piece). This followed by intensive 'working' of materials to 'conform' to the desired effect.

As with all my work, it is also informed by influences from other disciplines, literature, fine art etc.

Is it important to you that your composition is listened to with your intentions in mind and why?

SA: Not at all.

Is/are there something(s) in the composition that you want the listener to hold on to and why?

SA: The piece offers a seemingly uniform and continuous sound world – which arguably is something to ‘hold on to’.

The important point here is that the music attempts to engage the audience in detailed and attentive listening, as well as striving to stimulate the imagination.

At what point in the compositional process did you decide on a title for the piece?

SA: At the very beginning. (Although some of the material used was already in existence).

How much do you rely on the title as a tool with which to express your compositional intentions and why?

SA: I conceive of the title offering “another layer” to any experience of the piece, but not being essential to apprehending the work.

Do you rely on any other accompanying text, in the form of programme notes, to outline your intentions prior to the listener’s engagement with the composition and why?

SA: Have adopted three strategies concerning this (dependent on knowledge of the audience likely to hear the piece)

1. No programme note at all.
2. Informal verbal introduction before the piece is played or performed.
3. Formal written programme note (including fragment of poem by Paul Éluard).

Who is your intended audience for this composition?

SA: Anyone who wants to listen.

How is your compositional process influenced by the intended audience, if at all?

SA: The piece attempts to avoid any reference to the repertoire or recognition of specialist techniques as being necessary to its enjoyment/understanding.

The piece aims to appeal to all through its poetic – possibly it is provocative to some in e/a community because of its minimal nature / avoidance of gesture.

How important is it that the technical processes involved in the composition are recognised by the listener and why?

SA: Not at all.

3.3.1 The listening experience – first listening responses for *Nocturne*.

The majority of first listening experiences involved the identification of particular sounds described by way of their acoustic quality (“crackling”, “humming”) and/or the listeners’

perceived real-world source/cause of the sound (“insects”, “water dripping”). Many listeners also identified a general environmental contextual ambience in the work, most often described as a natural, outside location, (“a rainforest”).

TABLE 25

THE MOST OFTEN IDENTIFIED SOUNDS FOR ALL THREE USER GROUPS IN *NOCTURNE*.

InEx core & supplemental groups combined - most often identified sounds in first listening - 'Nocturne'		Ex user group - most often identified sounds in first listening - 'Nocturne'		HiEx user group - most often identified sounds in first listening - 'Nocturne'	
Sound	Number of responses	Sound	Number of responses	Sound	Number of responses
Natural sounds	54	Natural sounds	24	Natural sounds	6
Water	15	Natural location	11	Insect sounds	2
Ringing sound	14	Insect sounds	9	Water	2
Insect sounds	12	Ringing sound	6	Ringing sound	1
Natural location	11	Water	4	Metallic sounds	1
Metallic sounds	8	Rain	2	Natural location	1
Fire	8	Metallic sounds	1		
Space-like sounds	6	Fire	1		
Rain	5				

Table 25

The composer describes the sounding content as “essentially resynthesized recorded sound (to the extent that it is, to all intents and purposes, synthesized.)...Material [has been] extensively worked upon in a ‘sculptural’ fashion.” As would be expected with a work identified as containing an abstract sounding content, technical descriptions of sounds and processes were quite prevalent in the Ex and HiEx group during their initial contact with the work.

Most listeners described the general, overall sounding content as comprising three continuously sounding, individual sound types. One was typically described as a crackling type sound, one as a ringing sound and one as a humming, tonal, background sound. The way in which the listeners interpreted these three sounds and combined them into a general soundscape was very interesting.

A high number of responses identified and described the sounding content as that issuing from the natural environment. Twenty-three responses concerned a natural setting in general. Twenty-three described the sound of insects and twenty-one described the sound of water. Responses indicate that most listener's held on to the crackling sound as the dominant sound in the work. This is perhaps because this sound is most prominent in the mix during the initial part of the work but also that it is most recognisable as something issuing from a real world source and as such is easier to describe and identify. The identification of the crackling sound as the dominant sound and its interpretation as being something natural, established an initial provenance for the work, this may then have contextually influenced listener identification and interpretation of the other (secondary) sounding elements within the work.

Most InEx and Ex listeners interpreted the humming and ringing sounds as a kind of background ambience, not as real-world sounds. Many interpreted these sounds as suggesting an emotive characteristic. This may explain why eighteen listeners (thirteen InEx [39% of group/45% of core group] and five Ex [25% of group] – more than in both *ABZ/A* and *Deep Pockets* combined) noted that the work sounded like it could be part of a movie or TV programme soundtrack. Nine suggested a horror movie, five suggested a sci-fi movie. These listeners were detecting a strong imagistic and emotive quality in the sounding content, resulting in the idea that the work was a soundtrack used to enhance the emotive quality of something visual.

DQ1 – What might this piece be about?

TABLE 26

INEXPERIENCED CORE USER GROUP RESPONSES TO THE QUESTION, ‘WHAT MIGHT THIS PIECE BE ABOUT?’ (DQ1) IN *NOCTURNE*.

DQ1. InEx core user group - 'Nocturne'	
Listener number	Response
1	The artist is creating a spooky atmosphere for a horror movie, it gets eerier as the piece goes on.
2	A forest setting at night-time and daytime. The change in atmosphere in the forest during day and night
3	Sitting on a hillside by a stream trickling over small rocks, by a small campfire, no one around for miles, just sitting and thinking.
4	Not Sure.
5	Not sure.
6	A wildlife documentary, the emergence of an insect from its larval form.
7	Not sure.
8	Just different weird sounds.
9	Contacting another planet.
10	A fire burning in the countryside.
11	Birth to death of nature.
12	Underwater observations.
13	A hatchling trying to get out of its egg.
14	Not sure.
15	Sounds from the countryside or a rainforest.
16	A scene in a horror movie, misty spooky woodland and lake where mysterious things happen.
17	Not sure.
18	Not sure.
19	The jungle at night time.
20	Sounds of nature in a woodland swamp.

Table 26

TABLE 27

INEXPERIENCED SUPPLEMENTAL USER GROUP RESPONSES TO THE QUESTION, ‘WHAT MIGHT THIS PIECE BE ABOUT?’ (DQ1) IN *NOCTURNE*.

DQ1. InEx supplemental user group - 'Nocturne'	
Listener number	Response
1	Could be about anything. Whatever you can imagine.
2	A strange spooky night.
3	Not sure.
4	Walking through woods at night.
5	Night-time and mystery.
6	A forest with an alien landing.
7	Story of someone who can't wake up from a dream.
8	Not sure. Just scary.
9	Someone trying to describe loneliness through dark, lonely, eerie sounds.
10	A tropical rainforest of insects and waterfalls at night with a wind going through it.
11	Not sure.
12	Not sure.
13	Night-time creatures in the forest.

Table 27

TABLE 28

EXPERIENCED USER GROUP RESPONSES TO THE QUESTION, ‘WHAT MIGHT THIS PIECE BE ABOUT?’ (DQ1) IN *NOCTURNE*.

DQ1. Ex user group - 'Nocturne'	
Listener number	Response
1	A stream of water which is transformed during its journey.
2	Night-time scene exploring the natural noises made by creatures in a rainforest or jungle.
3	Not sure.
4	Somewhere icy and cold, a shimmering ice cave, that transforms into a jungle.
5	A futuristic rainforest.
6	A forest.
7	Twilight, anticipation, expectance. Contemplative. Being in the moment, aware of the internal world.
8	Space flight just outside the earth's atmosphere and the aurora lights.
9	Early morning creatures/organisms maybe communicating with each other.
10	Setting the scene of a misty rainforest, the hum of insects filling an eerie soundscape, you cannot see any animals but know there is hidden life by the sound of creatures moving around you.
11	Strange new landscape/atmosphere. Some species of insects and plants, insect habitat.
12	Dark mysterious wood/forest and the sounds of the creatures.
13	The sounds of the rainforest.
14	The nature of the jungle.
15	Natural jungle environment juxtaposed with an alien environment.
16	A single moment in time, exploring a particular small range of sounds.
17	The sound of nature in the woods at night and how the sounds there cannot be recognised.
18	A wandering, exploration of some kind. Sinister, something waiting to be discovered in the forest.
19	Life within a forest, but the forest is in the mind.
20	Hot summer evenings.

Table 28

TABLE 29

HIGHLY-EXPERIENCED USER GROUP RESPONSES TO THE QUESTION, ‘WHAT MIGHT THIS PIECE BE ABOUT?’ (DQ1) IN *NOCTURNE*.

DQ1. HiEx user group - 'Nocturne'	
Listener number	Response
1	A single sound image, unity, unification, a sound image that changes organically and slowly, not dramatically or in an extreme way.
2	This piece is about how to combine sounds in different sorts of relationships.
3	An exploration of an inner sound world, the space between sound objects.
4	Heat of the summer.
5	Small sounds coming together to make a whole.
6	Some form of natural event.
7	Micro sound world, gentle evolutions.
8	Exploring the details of minimal sounds.

Table 29

Thirteen listeners (21% of total – twelve InEx and one Ex) were unsure as to what the piece might be about.

Interpreting listener interpretations of the work's theme during the first listening experience.

TABLES 30, 31 AND 32

RESPONSES ORGANISED INTO THEMATIC CATEGORIES FOR EACH USER GROUP – *NOCTURNE*.

DQ1. InEx core and supplemental user group responses combined - 'Nocturne'	
Category	Responses
Nature/natural environment	12
Forest/jungle	9
Night-time setting	8

Table 30

DQ1. Ex user group responses combined - 'Nocturne'	
Category	Responses
Forest/jungle	12
Nature/natural environment	8
Night-time setting	3

Table 31

DQ1. HiEx user group responses combined - 'Nocturne'	
Category	Responses
Small, minimal sounds	5
Nature	2
Sound relationships	1

Table 32

Combining the results for Tables 30, 31 and 32 reveals that the most prevalent general themes identified as what the work might be about were:

The sounds of nature and/or a natural environment (22 responses – 43% of those who offered an interpretation).

The sounds of the forest or jungle (20 responses – 39%).

A night-time scene (11 responses – 22%).

Small, minimal sounds (5 responses – 10%).

Most listeners (67%) held on to the crackling sound as the dominant sound. Eighteen InEx (55% of group/60% of core group), sixteen Ex (80% of group) and two HiEx interpreted it as being various sounds of nature, such as the sounds of creatures or other natural sounds, e.g., rustling leaves, a trickling stream, a crackling fire. Those listeners who experienced an image of the jungle, rainforest or swamp, held on to the sounds that they had identified as insects, particularly those identified as the sound of crickets, (tropical insects) hence a hot climate and the sounds of water and/or rain, all of which are typical sounds present in the rainforest, jungle or swamp.¹¹⁴

Listener identification of a night-time setting was problematic in terms of identifying the SHFs that had been used to realise this night-time interpretation. Six listeners who experienced a night-time setting did mention the sound of crickets (insects that are associated with the night). However, in total, seventeen listeners mentioned that the work suggested the night or a feeling of darkness (most of these responses were revealed through

¹¹⁴ It is interesting to note that Trevor Wishart suggests that in certain cases the listener may “mistake electronic or mechanical vibrations of certain types for the sound of crickets [...]” (Wishart, 1996: 150)

DQ4, as a night-time setting is an image-based sound interpretation). Fifteen of these listeners did identify the sound of insects in general. It could be that these insects were interpreted as crickets, but not noted as the sound of crickets in the questionnaire. Nineteen listeners (compared to seventeen who had an imagistic listening experience concerning a night-time setting) described the sounding content as having an eerie or spooky ambience. This included fourteen InEx listeners (42% of group). These particular emotive interpretations may have suggested the idea of darkness and things that are happening at night.

The interpretation of the work as a purely abstract acoustic work was offered by six of the eight HiEx listeners. These listeners were holding on to the abstract sounding content and their identification of its controlled evolution as signifying a work based on the acoustic properties and composed musical organisation of sounds. These listeners felt that the work was not about real-world images and references suggested by the sounding content but about the sounds themselves as part of a unified and subtly evolving sound world. Three Ex listeners noted that the work was about both the musical organisation/evolution of the sounds and real-world references; nine other Ex group responses demonstrated a similar dual listening approach. However, most Ex listeners (despite having detected and identified the composed qualities of the sounding content) offered real-world, image-based interpretations of what the work was about, demonstrating that they felt the principal communicative intent was not that of a purely acoustic exploration but of establishing real-world referential meanings.

An interesting response in terms of the *acoustic* vs *referential* listening experience was that of listener 2HiEx who noted that, “I don’t think any piece has a subject, E/A pieces have the behaviour/quality of sound as their subject. This piece is about how to combine sounds in different sorts of relationships”. He then offered the following response to DQ4, “a place in the woods with a stream of water, brown and green colours and a bit dark. However, this image is not important for the listening, the quality of the sounds is more important”. Interestingly, his image-based response is consistent with that described by the majority of listeners who had an image-based listening experience, confirming that

the quality of the sounding content is consistently suggestive of very particular real-world sounds and environments for listeners in all three user groups.

Comparing first listening experiences with the pertinent aspects of the composer's communicative intentions.

The composer wanted to draw the listener's attention to the detailed nature of the sound world, the normally overlooked aspects, rather than dramatic gestures and to "engage the audience in detailed and attentive listening". Thirteen InEx (39% of group/35% of core group) and eight Ex (40% of group) listeners interpreted the sounding content as comprising small, detailed sounds, such as the crunching of leaves, insects moving around, insects emerging from their chrysalis, water trickling over small rocks, the crackling of a fire. In these cases the sounding quality has suggested small, detailed and intricate sounds rather than large dramatic sounds.¹¹⁵ Responses from most InEx and Ex listeners indicate that they did not dwell on the sounds themselves, exploring their inner intricacies as evolving sound objects with no real-world reference. Most listeners (both InEx and Ex) interpreted the sounds as issuing from a real-world source (or sounding like they had issued from a real-world source) and tended to combine these identified sources into a larger, general picture (soundscape), that of a forest, jungle or other natural environment.

Six Ex and five HiEx listeners did mention that the work seemed to focus on the intricate nature of the sounds, for example 6Ex, "it is about exploring close-up, intricate sounds" and 3HiEx, "it explores a microscopic, inner sound world". Nine InEx (27% of group/20% of core group), twelve Ex (60% of group) and five HiEx had a listening experience that involved the detection of detailed sounds and the identification of these sounds based on the differences in their sounding quality, of which eleven listeners (all Ex and HiEx listeners) felt that the work was specifically about the detailed and evolving quality of the sounds. As expected, the Ex and HiEx listeners with their experience of hearing similar such works were most likely to appreciate aspects of the work from a purely acoustic perspective.

¹¹⁵ The sounding content includes no grand gestures and so it would be extremely unlikely for listeners to detect any.

The composer notes that he wants the listener to hold on to the “uniform and continuous [nature of the] sound world”. Seventeen InEx (52% of group/55% of core group), eleven Ex (55% of group) and eight HiEx listeners noted that there was little or no change in the sounding content over time. The majority of InEx listeners who identified this factor indicated that this was a reason why they found the work unengaging. The sounding content was identified as being comprised of three particular unchanging sound types and these were interpreted and integrated into a very particular homogenous environment. Responses reveal that half of all listeners (thirty-four listeners - 56%), including sixteen InEx (48% of group/45% of core group), fifteen Ex (75% of group) and three HiEx listeners felt that this homogenous environment was organic and natural. These results indicate that the timbral quality of the sounding content was highly suggestive of a particular sound type. Listener identification of such a dominant sound type has been demonstrated (in this particular work) to have a major influence on the listeners’ overall interpretation of the work.

Listener identification of the continuous, homogenous quality of the sounding content was confirmed by responses to DQ5 concerning the identification of narrative elements in the work. Twenty-two InEx listeners (71% of group/65% of core group), twelve Ex listeners (60% of group) and seven HiEx listeners noted that they did not detect any significant narrative progression in the work. When asked in the CIQ, *Is there a narrative discourse involved?* the composer responded, “Not really. (Although the intertextual sense of locating the music in relation to other Nocturnes, Nachtmusik, quiet music, lowercase sound etc. etc. could arguably be described as narrative)”. Four Ex and seven HiEx listeners did detect subtle sound transformations in the work and suggested that this was a compositional intention. Identification and appreciation of the most subtle acoustic aspects of the sound world in all three works was most prolific in the HiEx user group. This indicates that extensive E/A art music experience (including active composition in the genre, which may have a significant influence on the extent to which the listener can engage with such subtle detail) appears to be a significant factor in this particular aspect of the listening experience. Yet interestingly, having detected such detailed and subtle sound evolution in *Nocturne*, all Ex and HiEx listeners felt that there was no overt narrative progression. One possible reason for this may be explained by listener 2HiEx’s response

that “the whole piece [was] static with internal movements”, that there was an “absence of rupture” and listener 7Ex’s response that “the lack of change made it seem to be one moment in time”. In most listening experiences the real-time, temporal progression of the sounding content was to some extent suspended and the subtle sound transformations, although happening in real-time were interpreted as some kind of static, timeless, inner evolution and so without a narrative progression. These responses indicate that the homogeneity of sounds as interrelated, individual sounds relative to an overall general soundscape was a significant SHF for the listeners in this particular work. Twenty-four responses offered in DQ8 (most from the InEx and Ex group) indicated that this continuous uniformity of sound was also the least engaging aspect of the work. Fourteen InEx (42% of group/50% of core group), six Ex (30% of group) and two HiEx listeners noted that the combination of the unchanging sound world with the eight-minute duration of the work was problematic. Eleven InEx (33% of group/35% of core group), three Ex (15% of group) and two HiEx found the work uninteresting due to its duration and its unchanging sounding content. This may be a consequence of the pop song effect. InEx listeners are generally used to hearing three minutes of dynamically structured (verse, chorus, bridge, etc.) musical material. A work without such content is alien in terms of their habituated listening approach and so (despite the sounding content itself being engaging) the listening became tedious.

As a whole, the work was intended to have a dual communicative purpose, in that the composer wanted to stimulate a detailed listening experience but was also “striving to stimulate the imagination” by way of creating “an aural space in which the listener may be stimulated into projecting their own reveries and dreams onto the ‘screen’ offered by the composer...Imagistic transformations not realised with the computer in the studio are left as potentials in the mind of the active listener”. Twenty-two InEx (67% of group/60% of core group), eighteen Ex (90% of group) and two HiEx listeners created an image-based interpretation of the work by way of:

- 1) Identifying the specific characteristics of the principal sound-types present in the sounding content (‘crackling sound’, ‘ringing sound’ and ‘humming sound’).

2) Interpreting these in terms of their real-world significance and their emotive reference ('movement of insects', 'eerie ambience').

3) Using these elements as SHFs through which to establish an image-based soundscape, e.g., 10Ex, "setting the scene of a misty rainforest, the hum of insects filling an eerie soundscape, you cannot see any animals but know there is hidden life by the sound of creatures moving around you".

The composer intended the work to be accessible to "anyone who wants to listen". The responses investigated above concerning the relationship between composer intention and listener response indicate that in general, a positive percentage of listeners from all groups were able to engage with some of the primary communicative intentions of the composer during the first listening. This involved engaging with and reacting to the detailed quality of the sounds (most prevalent in the Ex and HiEx group), their continuous, homogenous nature, and having an imaginative listening experience (the predominant experience in the InEx group).

3.3.2 Second listening responses – the influence of the title on the listening experience.

As with *ABZ/A*, presenting the title to the listeners without indicating its meaning was problematic in terms of its use as a tool of access in *Nocturne*. At this second listening stage it would have been pertinent to inform the listeners of the tradition of the 'nocturne' in the arts; that works described as 'nocturnes' are generally based on aspects of the night and of having a subdued and dream-like quality. Listeners should also have been informed that the composer wanted the title to offer "another layer" to their experience of the work, and that their understanding of the title was not essential to their understanding of the work. The title is not what the work is about.

The title of the work when presented to the listeners prior to the second listening influenced listening experiences in several ways.

Changed interpretation – Six InEx (18% of group/20% of core group), seven Ex (35% of group) and two HiEx listeners changed their original interpretation during the second listening. Twelve of these suggested that the work was about the night and seven (including four InEx listeners) also commented on the detailed, intimate quality of the sounds.

Enhanced interpretation – Fourteen InEx (42% of group/45% of core group), nine Ex (45% of group) and four HiEx listeners had an enhanced listening experience based on their interpretation of the title, which led to an enhanced interpretation of the work. All had interpreted the title as indicating ‘night’. A typical example of this is listener 6InEx/NM whose first listening interpretation concerned “a wildlife documentary, the emergence of an insect from its larval form”. Following the second listening he interpreted the work as being about “sounds of the night-time activities of insects and creatures”. In this case the general theme concerning the sounds of the movement of insects has been held on to and combined with the ‘night’ SHF suggested by the title. In his response in RTQ2 this listener noted that there were many “unidentifiable sounds of nature – hidden in the dark” and that “at night the ears pick up the softer sounds”. He noted that some sounds were like “a snail’s nightly movements, the clicking sound of its trail”. He has changed the imagined provenance of the sounds to reflect a night-time context, for example, snails are nocturnal creatures and their mode of locomotion appears to fit into the acoustic context of the sounding material, from both a timbral perspective and in terms of the close-up, magnified quality of the sounding content. Several listeners commented on how the idea of ‘night’ led to a greater appreciation of the work, that it seemed to fit with the sounding content, for example, 20InEx/M, “the piece works better when set at night, this is when the quiet sounds of nature can be heard”.

Although most listeners interpreted the title as meaning ‘night’, the majority of these listeners used this night time context in direct relation to the quality of the sounding content, i.e., despite the fact that they felt that the work was visually and aurally set at night (an interpretation of the title that is not entirely consistent with the composer’s use of it), the quality of the sounding content in terms of its close-up detailed quality became a particular focus of attention through this night-time context (an interpretation of the

sounding content that is relatively consistent with the communicative intention of the composer).

Reinforced interpretation – Three InEx (9% of group/10% of core group), three Ex (15% of group) and two HiEx listeners used the title to reinforce their original interpretation. Following their first listening six of these listeners had felt that the work was about the sounds of creatures in the forest/jungle at night. Their interpretation of the title as suggesting ‘night’ when integrated into their interpretation of the sound world did not disrupt their initial interpretation or have a significant effect on their second listening experience.

Developed interpretation – Thirteen listeners did not offer a response as to what the work might be about after the first listening. Twelve of these were able to do so following the second listening.

4InEx/NM “in a tunnel at night, with wind and dripping water”.

5InEx/NM “sounds of jungle creatures at night”.

7InEx/NM “the sounds of night-time animals coming out to feed”.

8InEx/NM “the quiet sounds of the night”.

14InEx/M “the sounds of the countryside just before dawn breaks”.

17InEx/M “a light bulb glowing in the dark with insects flying around it”.

18InEx/M “sounds of nature in the desert at night”.

1InEx/NM-NOC “the sound of a hot place at night”.

8InEx/M-NOC “the jungle at night”.

11InEx/M-NOC “night-time creatures moving around in the darkness”.

12InEx/M-NOC “noise from a jungle at night”.

3Ex “a surreal picture of night”.

All twelve interpreted the title as indicating ‘night’. Most experienced a homogenous environment that was organic and natural, as did the majority of listeners in the first

listening. Seven listeners specifically mentioned that the work was about sound, rather than just that of an image of a natural, night-time setting.

Listener 3InEx/NM-NOC was unable to offer an interpretation following the second listening as she did not know what the title meant and could not combine the sounding content into a meaningful gestalt through repeated listening. When informed of the title's meaning, this listener was able to integrate it into her third listening experience. This was incidentally the only instance of a listener being unable to offer an interpretation of what the work might be about following the second listening in any testing that was conducted, including all pilot project testing.

RTQ2b – Did the title assist the listening experience?

Ten InEx (30% of group/35% of core group), four Ex (20% of group) and one HiEx listener noted that the title helped them to suggest what the work might be about.

Fourteen InEx (42% of group/45% of core group), seven Ex (35% of group) and two HiEx listeners noted that the title helped them visualise the sound world.

Ten InEx (30% of group/30% of core group) and six Ex (30% of group) listeners noted that the title helped them to contextualise the sounds. Most of these listeners noted that the visualisation of a night-time setting, established this context, therefore this category is directly related to that above.

Five Ex (25% of group) and four HiEx noted that it was the repeated listening that helped the most.

One InEx, five Ex and four HiEx listeners noted that the title did not help.

Listener response data reveals that thirty-two InEx (97% of group/100% of core group), fifteen Ex (75% of group) and four HiEx listeners held on to the title and its meaningful significance in relation to the content of the work during the second listening, whether or not it influenced their original interpretation as to what the work might be about.

The identification and interpretation of pertinent sounds relative to the composer's intentions during the second listening.

Thirteen InEx (39% of group/40% of core group), two Ex (10% of group) and three HiEx listeners (all who had not done so in the first listening) noted that the work was about the sounds of nature or a natural environment in general. This listening experience was based on the detection of an organic, natural sounding quality and its suggestion of a particular homogenous sound environment. In total (combining first and second listening responses), twenty-nine InEx (88% of group/90% of core group), eighteen Ex (90% of group) and five HiEx listeners felt that the work was about the sounds of nature within a unified, natural soundscape. This indicates that the sounding quality of the work was a principal SHF used during the second listening for many listeners and that the second listening (in particular, repeated listening) helped the InEx listeners in terms of unifying the sounding content into something meaningful.

During the second listening, nine InEx (27% of group/25% of core group), twelve Ex (60% of group) and two HiEx listeners had a listening experience that involved the detection of detailed sounds and the identification of these sounds based on the differences in their sounding quality, of which seven listeners (six Ex and one HiEx) felt that the work was specifically about the detailed and evolving quality of the sounds. A majority of the Ex listeners appear to be shifting their listening experience inside the work during the second listening, exploring the work from an acoustic perspective, engaging with the intrinsic acoustic environment and its timbral significance. Whereas in the first listening a majority of the Ex group established an image-based interpretation of the sounding content of the work.

Many of the listeners who had a second listening experience involving the detection of detailed sounds and the identification of these sounds based on the differences in their sounding quality, contextualised what they were hearing through a night-time context, (based on their interpretation of the title), listening to the sounds as magnified, detailed, close up sounds. This listening experience was directly related to the establishing of a night-time image – a situation where the sounds become focussed and their details are revealed. In this situation the ears become the primary sensory organs. For example,

3InEx/NM “it’s like I’m out in the country at night, its really dark, I can’t see anything. But my ears can hear all of the sounds of the tiny creatures moving about...like my senses are heightened”. In total (combining first and second listening responses) sixteen InEx (48% of group/40% of core group), sixteen Ex (80% of group) and seven HiEx listeners now felt that the work was wholly or partly about listening to the detailed and intricate nature of the sounds.

The composer did note that “there is the possibility of the listener’s experience being informed by the tradition of the Nocturne”. No listener specifically mentioned the tradition of the nocturne in its musical or art-based context in relation to the work. 98% of all responses did refer to the sounds of the night, but these may have been based on ‘nocturne’ as meaning ‘nocturnal’. Some listeners did mention a magical, mysterious, dream-like quality to the sounding content, but again, these responses did not directly associate this imagery with an interpretation of the word ‘nocturne’ in its musical or art-based context.

3.3.3 Third listening responses – the influence of repeated listening and dramaturgic information on the listening experience.

For the third listening, listeners were offered all pertinent dramaturgic information selected from the CIQ.

Dramaturgic “something to hold on to” factors.

Many listeners held on to elements of the dramaturgic information during their third listening experience. The most prevalent elements were:

Evocative content. Listener 2InEx/NM, “I get a very strong picture of what is happening because I have projected my own dreams and ideas; it’s all my imagination”. Twenty-five InEx (76% of group/75% of core group) and eight Ex (40% of group) listeners held on to the composer’s concept of creating an evocative work that stimulates the listening imagination to project dreams and reveries onto the screen of sound offered by the composer.

The coming to life of the small sounds of the night. Listener 15Ex “I like the idea of small sounds coming to life as night falls. The things coming to life idea grows through the piece but it always retains a subtle sense of night”. Twenty InEx (61% of group/60% of core group) and thirteen Ex (65% of group) listeners, during their third listening experience, held on to the idea of the nocturne as representing the coming to life of the small sounds of the night. This concept either suggested or reinforced their interpretation of the sound world as that concerning the movements of small creatures in the night.

The sharpening of the aural sense. Listener 17InEx/M The idea of “heightening the aural sense” was good, it made me think about the small bits of the sounds, what the piece is about through the detailed sounds, how I imagine what these sounds are and what they mean”. Sixteen InEx (48% of group/45% of core group) and twelve Ex (60% of group) listeners used the sharpening on the aural sense concept as a SHF through which to enhance their third listening experience. Two of these listeners specifically held on to the ‘dangerously fragile’ concept, for example 2InEx/NM, “I like how it’s “dangerously fragile”, there’s lots of tiny details in the sounds that sound sort of fragile, like a loud noise would break them, delicate sounds that are magnified”.

Dramaturgy – its role in assisting access and appreciation in Nocturne.

When asked if the dramaturgic information assisted the listening experience, twenty-three InEx (70% of group/75% of core group), fourteen Ex (70% of group) and one HiEx listener responded that it did. All of these listeners were able to relate aspects of the dramaturgic information to the content of the work. The majority of these listeners used the information as a SHF to enhance their listening experience in terms of the work’s sounding content, their exploration of its acoustic detail/quality, and their interpretation of its meanings. Ten InEx (30% of group/25% of core group), six Ex (30% of group) and seven HiEx noted that the dramaturgic information did not assist their third listening experience. Sixteen of these listeners (this included seven of the eight HiEx group, three InEx and six Ex) noted that they already understood what the work was about by the second listening and that the dramaturgic information was not useful in enhancing their listening experience. The

remaining seven listeners (all from the InEx group) noted that they found it difficult to understand the intentions as described by the composer and so could not use them during the third listening. 11InEx/NM, “it was hard to understand what the composer was talking about, the words made little sense to me”. Many listeners in the InEx user group used the dramaturgic information as a SHF to access and appreciate the work with greater confidence and in more detail. The writing style used to present dramaturgic information might therefore be an important consideration (in terms of the expected reading level of the potential audience), particularly if the content of a particular work is such that it may require dramaturgic information to assist the InEx listener in accessing and appreciating the work.

Repeated listening.

Eighteen InEx (55% of group/50% of core group), twelve Ex (60% of group) and seven HiEx listeners noted that repeated listening helped them to understand and appreciate the work in a major or minor way.

Sixteen InEx (48% of group/45% of core group), thirteen Ex (65% of group) and one HiEx noted that it was the title and dramaturgic information that influenced their listening experience the most.

These results demonstrate that most listeners had an enhanced listening experience through repeated listening, but also that a significant number of listeners felt that the dramaturgic information was the *most* helpful factor in understanding and appreciating *Nocturne*.

3.3.4 Post-testing, group discussion notes.

When discussing the types of sounds identified in the work and the images and scenarios that they had imagined during the listening experience, both the InEx and Ex user groups were surprised to discover how similar each other’s listening experiences were. They reached a consensus of opinion that it must have been the quality of the sounds that caused this similarity of experience, most agreed that the dominant sound characteristics were

natural and organic sounding, in particular the ‘crackling’ sound. However, most agreed that by concentrating on the ringing and humming sounds the piece sounded more like outer-space and less natural. Most listeners agreed that it was the crackling type sound that seemed dominant and that the two other sounds established a background ambience, creating an emotive atmosphere. Many agreed that this background ambience made the work sound like a movie soundtrack, some noted that this ambient quality suggested an eerie emotive characteristic, while others suggested that the ambient quality of the background sound was relaxing and peaceful. A discussion amongst the musically educated group developed concerning how the work was ambient and surreal and how it might work well as ‘trip-out’ music, a reference to drug culture (listening to music whilst intoxicated). A significant number of InEx listeners, particularly the younger participants (16-25) noted that all three works had an interesting hallucinatory and surreal quality and that this was a particularly enjoyable element.

An issue was raised (initially by the InEx group, which I then raised in discussions with the Ex and HiEx groups) concerning a problem with the imaginative listening experience based on the lack of significant changes in the sounds over time. Listeners noted that because of this they could not change the images that they had in their mind, and because the work ‘went on for too long’ without them being offered different sounds, it made the listening experience become a little boring. Most Ex and HiEx listeners noted that there *were* significant changes in the sound world (when listening for such details) and although these did not have an effect on the image-based listening experience, they were still enjoyable as a composed, aesthetic element in the work. Many Ex and HiEx listeners noted that the subtle shifts in the sounding content were some of the most engaging aspects of the work.

I asked the listeners what they thought about the way in which the composer had sculpted the sound, creating subtle changes and evolutions in the sounding content. Most InEx listeners said that it all sounded the same. I played these listeners a particular section of the work 2.00 – 4.30 to highlight this subtle evolution. I suggested that they listen carefully to how the sounds in the work gradually and subtly changed, evolved and interacted over time. Following this listening I reiterated the sculpted sound idea, that the

composer had intentionally created these subtle changes. Many listeners agreed that they understood this idea and could hear it in the work. Several stated that they did not listen in this way during the testing, even during the third listening (having been told about the sculptural idea) because they found it easier and more engaging to create imaginary scenarios and imagine the sources of the sounds. They also noted that the composer's idea for them to project their own ideas and dreams was the easiest concept to engage with during listening.

Several of the InEx listeners mentioned how the language used in the dramaturgic information was difficult to understand in places. Further discussion revealed that the easiest parts to understand for most InEx and some Ex listeners were “music of the night”, “the coming to life of the ‘small sounds’” and the idea that the listener can “project their own impressions, reveries, daydreams” on to the screen offered by the composer. This discussion revealed that these ideas were the dominant dramaturgic SHFs for most of the InEx group and many of the Ex group.

Most of the discussions with the HiEx listener group and to a lesser extent the Ex group concerned a critique of the work as a composed artefact. Most listeners agreed that the minimal, yet detailed quality of the sounding content and the subtle use of sound evolution within this minimal environment was quite engaging and demonstrated compositional virtuosity. The level of compositional virtuosity in the work was noted by Ex and HiEx listeners as being an important element of their listening experience.

3.3.5 Accessibility – statistical analysis of directed listener response questionnaire responses (questions 9-12).

TABLES 33, 34, 35 AND 36

DATA CONCERNING RESPONSES TO QUESTIONS 9, 10 AND 12 IN THE DIRECTED QUESTIONNAIRE FOR EACH USER GROUP – *NOCTURNE*.

'Nocturne' accessibility data - DQ9, DQ10, DQ12 (InEx core group)				
Participant	Q9	Q10	Q12	Combined result
1	+	+	+	+
2	+	+	+	+
3	+	+	-	+
4	+	+/-	-	+/-
5	+	+	-	+
6	+	-	-	+/-
7	-	-	-	-
8	-	-	-	-
9	+	-	+	+
10	-	-	-	-
11	+	+	+	+
12	-	+	-	+/-
13	+	+	+	+
14	+	+	-	+
15	-	+	+	+
16	+	+	+	+
17	+	+	+/-	+
18	+	+	-	+
19	-	-	-	-
20	+	-	-	+/-
Total +	14	12	7	12 (60%)
Total -	6	8	12	4 (20%)
Total +/-	0	1	1	4 (20%)

Table 33

'Nocturne' accessibility data - DQ9, DQ10, DQ12 (InEx supplemental group)				
Participant	Q9	Q10	Q12	Combined result
1	+	+	+	+
2	+	+	-	+
3	-	-	-	-
4	+	+	+	+
5	-	-	-	-
6	-	-	-	-
7	+	+	-	+
8	-	+	+	+
9	-	+	-	+/-
10	+	-	-	+/-
11	-	-	-	-
12	+	+	+	+
13	+	+	-	+
Total +	7	8	4	7 (54%)
Total -	6	5	9	4 (31%)
Total +/-	0	0	0	2 (15%)

Table 34

'Nocturne' accessibility data - DQ9, DQ10, DQ12 (Ex group)				
Participant	Q9	Q10	Q12	Combined result
1	+	+	+	+
2	+	+	+	+
3	-	-	-	-
4	-	-	-	-
5	-	-	-	-
6	-	+	-	+/-
7	+	+	+	+
8	-	-	+	+/-
9	+	+	+	+
10	+	+	+	+
11	+	+	-	+
12	+	+	+	+
13	+	+	+	+
14	+	+	+	+
15	+	+	+	+
16	-	+	-	+/-
17	+	+	-	+
18	+	+	+	+
19	+	+	+	+
20	+	+	+	+
Total +	14	16	13	14 (70%)
Total -	6	4	7	3 (15%)
Total +/-	0	0	0	3 (15%)

Table 35

'Nocturne' accessibility data - DQ9, DQ10, DQ12 (HiEx group)				
Participant	Q9	Q10	Q12	Combined result
1	+	+	+	+
2	+	+	+	+
3	+	+	+	+
4	+	+	+/-	+
5	-	+	-	+/-
6	-	-	-	-
7	+	+	+	+
8	+	+	+	+
Total +	6	7	5	6 (75%)
Total -	2	1	2	1 (12.5%)
Total +/-	0	0	1	1 (12.5%)

Table 36

Combined results for Nocturne – 61 listeners tested.

Total Positive Responses (+)	39	(64%)
Total Negative Responses (-)	12	(20%)
Total Undecided (+/-)	10	(16%)

When asked what the most engaging aspects of the work were, listeners offered responses in the following categories (note that some listeners offered responses in more than one category):

The surreal/ambient quality

Twenty-six responses – eleven InEx (33% of group/35% of core group), ten Ex (50% of group) and five HiEx.

All of the InEx listeners who appreciated the surreal/ambient quality of the work were musically educated.

The imagery created by the sounds.

Twenty-three responses – seventeen InEx (52% of group/55% of core group) and six Ex (30% of group).

Enjoyed exploring the detailed acoustic characteristics/evolution of the sound world.

Nineteen responses – four InEx (12% of group/15% of core group), ten Ex (50% of group) and five HiEx.

Curiosity/expectation as to where the aural journey would lead.

Seventeen responses – eight InEx (24% of group/25% of core group), five Ex (25% of group) and four HiEx.

Note that the InEx listeners were interested in where the image-based journey would lead whilst the Ex and HiEx listeners were more often interested in how the sounding content might develop.

The composer's virtuosity.

Nine responses – seven Ex (35% of group) and two HiEx.

Three InEx listeners noted that it was interesting without offering a reason why.

Twelve InEx (36% of group/30% of core group), six Ex (30% of group) and two HiEx listeners stated that they found the work uninteresting. Most of these listeners (eleven InEx, three Ex and two HiEx) stated that they lost interest in the work because it was abstract and did not appear to mean anything. Several of these listeners also noted that the combination of duration and the lack of dynamic/textural/timbral variation was problematic, stating that

it went on too long at the same level of intensity without any significant change in the sounding quality. Thirteen InEx (39% of group/40% of core group), three Ex (15% of group) and two HiEx listeners stated that they felt the work was too long, but that they still enjoyed the listening experience.

It was mostly the InEx group who found the duration and minimal sounding content problematic. This could be due to their predominantly image-based listening approach in that they had formed images of the general soundscape early on in the work, and as the sounding content did not change (from their listening perspective), they did not experience any significant change or evolution to their image-based listening experience. Three InEx listeners did mention that they felt the work could be reduced in length without significantly changing how they experienced/interpreted it, e.g., 8InEx/NM “after about two minutes I heard everything that was going on and made up my mind about what it was about, nothing changed for ages. Why does it need to go on for so long without changing? It would be better if it was shorter”.

The Ex and HiEx listeners, with their experience of similar minimal, acoustically sculpted works, were better equipped in terms of listening to the sounding content from a composed, acoustic perspective. They were able to detect and appreciate the subtle changes in the sound world and so did not feel that the work was monotonous to the same extent as the InEx listeners. They also had more experience of listening to works of an extended duration and so in general did not find the duration of the work excessive.

Access statistics for *Nocturne* indicate that in general, the work was equally accessible to all audiences represented by the user group participants. There were slightly more positive responses from the Ex and HiEx groups (perhaps indicating that works with such abstract content are more interesting or accessible to these groups – previous experience of listening to similar works may be the key in this case). Positive InEx listener responses for DQ10 were at 61% (55% for the core group), Ex listeners were at 80%; indicating a balance between InEx listeners in this group who were open to listening to other works of the type represented by *Nocturne* and those who were not.

CHAPTER 4

CONCLUSIONS – INTERPRETING THE RESULTS OF DATA ANALYSIS

4.1 The listening experience – identifying and establishing a generalised something to hold on to factor framework.

Analysis of sound identification strategies, micro-level interpretations¹¹⁶ and macro-level interpretations¹¹⁷ in combination with dramaturgic information from the CIQ has revealed a consistent set of SHFs. These are used as one or more ways into the work and are integral to the listeners' interpretation of a work's communicative content. The process through which these general SHFs were identified and established is discussed in the following sections.

4.1.1 Sound identification strategies.

Real world sounds – (source recordings of real-world sounds that are identified as such).

Source – e.g., “crickets”.

Cause – e.g., “someone walking on a wooden pier”.

A pertinent *source* sub-category is:

Voice – e.g., “children's voices”. Listeners are naturally drawn to the presence of the voice in a work. Listeners will often attempt to identify and understand what is being said.

¹¹⁶ See chapter 4.1.2.

¹¹⁷ See chapter 4.1.3.

Location – e.g., “in a pool hall”. A location identification does not always require the presence of a real-world sound. A location can be established through the listener’s identification and interpretation of the reverberative characteristics of abstract sound. This is related to category iii below.

The identification of a location can be established in three ways.

- i) *Soundscape* – The encompassing soundscape is identified as that of a particular real-world location – e.g., “a busy city street”.
- ii) *Gestalt* – A series of sounds are interpreted as indicating a particular location – e.g., “sounds of creatures crawling through the undergrowth, rain, water trickling, crickets, stepping on twigs”, interpreted as “a rainforest” location.
- iii) *Reverberative* – The listener identifies reverberative characteristics (real or artificially produced) and interprets these as indicating a particular location – e.g., “the sounds of torture devices in a damp, stone dungeon” or “a closed, claustrophobic space, like I’m inside the pool table”.

Abstract (composer created) sounds – (note that abstract sounds in all three works were predominantly transformed environmental sound recordings).

*Representation*¹¹⁸ (listeners identify the abstract sound as sounding like a real-world sound, not as a case of mistaken identity [which does occur], the listener is aware that the sounds only sound *like* something real) – e.g., “distorted noises sound like an aircraft or a spaceship”.

Creative description (listeners identify a sound using a creative description) – e.g., “rhythm rats”, “electrostatic noise”.

¹¹⁸ This term is not to be confused with that of ‘*re-presentation*’ which when used in an E/A art music context is defined as “sound materials which have retained their source credibility and can be considered literally as a presentation of an original”. (ten Hoopen, 1994: 69) The term ‘*mimesis*’ is also apropos, defined as an imitative representation “which refers to some literal resemblance of the sounding object.” (Ibid.); it is therefore related to the *representation* category of abstract sound identification.

Onomatopoeic description (listeners identify a sound by way of a verbal imitation of how the sound sounds) – e.g., “jingles”, “crackles”. This category is related to the *timbral quality* category (see parameters of sound below).

Technical description (sounds are identified by way of the technical means through which they were thought to be created/manipulated/transformed) – e.g., “comb filtered chord”, “time-stretched”, “pitch-shifted”.

Parameters of sound – (these parameters can apply to the identification of both real-world and abstract sounds).

Timbral quality (listeners identify a sound through its timbral quality) – e.g., “metallic”.

Spatial quality (listeners identify the spatial characteristics of the sounds). A pertinent sub-category is:

Panning (listeners identify sounds as coming from particular areas across the stereo field) – e.g., “pool ball sounds come from different directions”.

Dynamics (listeners identify sounds as being loud or soft.) – e.g., “loud bangs followed by a quiet sound”. Dynamic identification is often combined with *parameter of sound* identification processes, e.g., “loud, shimmering high-pitched sound”, “a soft, hissing sound”.

Movement (listeners identify sound movements in two sub-categories):

- i) *Dynamic panning* – e.g., “the clicking sound moves from side to side”, “sounds like cars going by”.
- ii) *Proximity shifts* – e.g., “close objects gradually fade into the distance”.

Morphology (listeners identify the shape of a sound) – e.g., “a rising and falling sound, it’s like a wave but doesn’t sound like a wave”.

Pitch (listeners identify pitched sounds) – e.g., “there is a high pitched sound all the way through”.

Rhythm (listeners identify rhythmic elements) – e.g., “there is a rhythm to the metallic sound”, “rhythmic loops are made with some of the sounds”.

Structure.

Repeated elements (listeners identify repeated sounds/soundscapes) e.g., “the accordion sound comes back in again, but now its playing by the sea”, “returned to the same scene using exactly the same sounds”.

Layers of sound (listeners identify layers of sounds) – e.g., “there are three kinds of sound all going on at once, a crackling sound, a ringing sound and a humming sound”.

Transformation.

Static transformation – (listeners identify sounds as being transformed versions of real-world sounds) – e.g., “unnatural sounds were those created from original sources – pool playing sounds”.

Dynamic transformation – (listeners identify sounds that dynamically transform in real-time) – e.g., “the sound of thunder turns into the sound of a car”, “a sound image that changes organically and slowly”.

This list of categories concerns the sound identification strategies used by listeners in the three test works. Listener response quotations have been used as examples in each category.

Some responses incorporate several categories, for example the *source/cause* response (“footsteps on a wooden pier”) may also have incorporated *movement* and *proximity* identification (the sound of footsteps may move across the stereo field or may move from the foreground to the background, or vice versa). The *source/cause* description “water dripping in a tunnel” has combined the recognised sound of water dripping with the *reverberative characteristics* of the sounding environment resulting in a *location*-based interpretation “in a tunnel”. This use of an interpretation-based process, through which the identified sound is further contextualised prior to interpreting the communicative function of the work as a whole, is a process that I have termed ‘micro-level interpretation’.

4.1.2 Micro-level interpretation – the process of identifying abstract/transformed sound and its influence on the listening experience.

Listeners from all user groups used all but one of the sound identification processes listed above – *technical descriptions*. 100% of Ex and HiEx listeners used specialised terminology and/or described the technical processes used to create the abstract sounds at some point in the three testing sessions. This option was not available to the InEx listeners as they were not aware of the technical methods through which sounds can be manipulated, nor were they aware of the ways in which such abstract sounds can be musically organised.

InEx listeners were just as likely as the Ex and HiEx listeners to identify and acknowledge the presence of abstract sounds in the work. However, rather than appreciating these sounds from a musical (non-real-world) perspective (an approach sometimes used by the Ex and HiEx listeners) based on the identification of sounds through the various *parameters of sound* categories and the acoustic relationships between these sounds, the InEx listeners tended to attempt to describe and interpret the abstract sounds in real-world terms. Almost all InEx listeners (during the first listening) tended to establish real-world, image-based interpretations of the sounding content, rather than being focussed on the behaviour, structure, shape, dynamic and gesture characteristics of the sounds. They used *abstract sounds described as real*, *creative descriptions* and *onomatopoeic descriptions* to identify and describe abstract sound more frequently than the Ex/HiEx listeners. They also tended to interpret abstract sounds from an emotive perspective, e.g., “it

was an eerie sound”, or from a symbolic perspective, e.g., “it sounded like I was going through a time warp”, to a greater extent than the Ex/HiEx listeners.

These sound identification/description approaches often involved what I have termed a *micro-level interpretation* of the heard sound or sounds. This micro-level interpretation process is where a listener interprets a sound, a series of sounds or a particular section of the work before engaging in a *macro-level interpretation* of the work as a whole, this is an interpretation process based on the associative combination¹¹⁹ of the various identified and interpreted sounds and sections.

A typical example of this micro-level interpretative process is listener 1InEx/NM-DP who interpreted certain abstract/transformed sounds as “echoing metallic sounds” (a *timbral quality* identification combined with a *spatial quality [reverberative characteristics]* identification). He then applied a micro-level, real-world referential interpretation, likening the sound to “a ventilation system”. This micro-level interpretation is where the InEx listeners differed from the Ex and HiEx listeners who did not necessarily make such (real-world, referential) interpretations of abstract/transformed sounds but appreciated the *timbral quality/reverberative characteristics* of such sounds in relation to other abstract sounds using similar *parameter of sound* identification processes, resulting in a musical/sound-based interpretation rather than a real-world referential interpretation. The InEx listener in this case used other micro-level interpretations concerning the varied *timbral quality/reverberative characteristics* of other abstract/transformed sounds heard in the work as signifying “various rooms”. Through this process he established his macro-interpretation of the work as a whole: “it is about travelling through a building through vents and pipes”. It is the micro-level interpretation of these abstract sounds from a real-world referential perspective that has led to a macro-interpretation that is not in line with one aspect of the communicative intention of the work (*Deep Pockets*) which concerned listening to the inherent acoustic characteristics of the sounds and their musical interactions. Having been offered dramaturgic information concerning listening to the

¹¹⁹ See chapter 4.1.4.

inherent acoustic characteristics of the sounds and their musical interactions this listener incorporated this approach into his third listening experience.

Response data demonstrates that unlike the InEx listeners, the Ex and HiEx listeners were able to engage with and appreciate the work from a dual listening perspective during the first listening. They could interpret the abstract sounds from a real-world referential perspective if they felt that the abstract sounds were relevant to certain real-world referential characteristics of other elements of the sounding content or the general communicative theme of the work. Or they could listen from a musical/composed/non-referential perspective, if they felt that this was a communicative aspect of the work. It also appears that the greater the concentration of abstract sounds within a work, the more likely the Ex and HiEx listeners were to interpret the work (as a whole) from a musical/composed/non-referential perspective during the first listening. The three works (as test material) were important in this respect as the extent to which abstract sound was present and used in a composed/musical manner varied in each work.

FIGURE 9

THE USE OF ABSTRACT SOUND IN THE THREE TEST WORKS.



Figure 9

Ex and HiEx listeners’ identification, description and interpretation of the abstract sounding content in terms of its musical organisation within a work increased relative to the presence of abstract sounds in each work. Whereas for the InEx user group; as the abstract content increased, the emotive, creative, imaginative and micro-level interpretative approaches to the identification of abstract sounds increased.

Analysis of InEx listener responses to abstract/transformed sound indicates that identification, interpretation and appreciation of the communicative aspects of the abstract sounding content of a work from a non-real-world referential perspective is problematic for this group. The number of “not sure” responses offered by the InEx user group for each work when asked ‘what might this piece be about?’ following the first listening may reflect this: *ABZ/A* – one listener; *Deep Pockets* – five listeners (15% of group); *Nocturne* – twelve listeners (36% of group).

It may be pertinent for composers whose work involves the musical organisation of abstract/transformed sounds as an aspect that is important in terms of its appreciation, to offer a helping hand to the InEx listener in terms of understanding the ‘why’ of abstract/transformed sound in a particular work; this may in turn assist their enjoyment and appreciation of the work. The usefulness of a helping hand in this area has been confirmed by response results showing that 45% of InEx listeners felt that being offered information concerning the presence and function of abstract/transformed sounds in the work helped them identify and appreciate these elements. A good example of this process concerned the InEx listener response results for *Deep Pockets* where most listeners, having established the environmental, real-world context of the work during the first and second listening and having not understood (or misinterpreted) the reason for the unnatural sounding content, used the composer’s ‘inherent musicality/acoustic quality’ intention as a SHF through which to explore the work during the third listening.

4.1.3 Interpretation strategies – discovering the pertinent something to hold on to factors.

Having identified and described sounds in the work, listeners are then able to interpret these sounds in terms of establishing a theme, meanings or communicative function for the work as a whole – a macro-level interpretation process. The elements through which the listener arrives at this meaningful interpretation are the SHFs. Sound identification categories that involve an overt subjective interpretation (such as micro-level interpretations) have not been included in this SHF list, as such subjectivity presents difficulties when establishing a generalised SHF framework.

SHF categories. (SHF categories that have not been described in the sound identification/description categories above will be described in the following list.)¹²⁰

A) Real world sounds.

- i) Source/cause.
- ii) Voice.
- iii) Location.

B) Parameters of sound.

- i) Timbral quality.
- ii) Spatiality.
- iii) Dynamics.
- iv) Movement.
- v) Morphology.
- vi) Pitch.
- vii) Rhythm.

C) Structure.

- i) Narrative (real-world).

Listeners hold on to their identification of a narrative structure in the work based on real-world sounds.

- ii) Narrative (acoustic)

Listeners hold on to their identification of narrative structures in the work based on the acoustic relationships and evolution of sounds. *Acoustic narrative* may therefore involve aspects within the parameters of sound category.

¹²⁰ A list of SHF categories, without any accompanying description can be found in appendix VIII.

The identification of a narrative structure is based on the listener's detection of an *episodic temporal progression*. Listeners identify a series of discrete sounds or sections that are interrelated through the temporal progression of the work, e.g., sounds of “a bar, gulls, seaside, traffic, airport, high street, fairground, seafront, aircraft flying, long strange sound, high-street, park, traffic, town centre, park...[interpretation –] like I'm travelling through different areas”.

iii) Layers of sound.

iv) Juxtaposition of sound (real-world).

Listeners identify and hold on to the juxtaposed relationship between real-world sounds – e.g., “there is a city/beach juxtaposition”

v) Juxtaposition of sound (acoustic).

Listeners identify and hold on to the juxtaposed relationship between the acoustic parameters of sounds – e.g., “there are two main juxtaposed layers, one rhythmical, textural, granular and a comb filtered, tonal pad with harmonic shifts”.

Juxtaposition is similar to both *layers of sound* and *homogeneity of sound* categories. However, in *juxtaposition* it is the contrasting relationship between the sounds that is identified rather than the identification that there are simply several layers of sound. *Juxtaposition* also groups sounds, but in contrasting rather than homogenous relationships. Both *layers of sound* and *juxtaposition* categories may include SHFs from the following categories: *real-world sound*, *abstract sound*, *parameters of sound* and *transformation*.

D) Transformation.

i) Static transformation.

ii) Dynamic transformation.

E) Homogeneity of sounds.

i) Real world sounds.

ii) Parameters of sounds.

Homogeneity of sounds is a very broad category where listeners group sounds, both real and abstract that appear to be related, through a particular parameter or parameters. Establishing an homogeneity of sounds has been demonstrated to be integral in establishing meaning-based interpretations of the work. All listeners tended to homogenise elements of the sounding content during the listening experience – homogenisation is therefore fundamental to the macro-level interpretative process.

F) Extrinsic information.

i) Title.

Listeners hold on to the title and its meaning, e.g., “the title (*Deep Pockets*) provided ideas as to what the sounds were – pool game sounds and the journey of the balls down the deep pockets inside the pool table”.

ii) Dramaturgy.

Listeners hold on to the dramaturgic information offered by the composer, e.g., [*Nocturne*] “I like the idea of “small sounds coming to life”. I can now hear how the different small details in the sounds move to the foreground and then back into background. A screen on to which I can project my own dreams and reveries – yes, there is no definite sound world, only the one that you create yourself”.

This framework of SHF categories, established through the I/R method, has expanded on that first introduced by Landy.¹²¹ Having access to multiple, individual listener response data sets (solicited through the I/R method) has allowed me to be able to tease out certain elements from within the general SHF categories initially established by Landy, creating a slightly more detailed level of SHF generalisation, expanding the list. These detailed elements have also been demonstrated to be pertinent to the cross-section of listeners represented in the user groups, both novice and specialist. It is my hope that as more

¹²¹ See chapter 1.2.1.

research is conducted in this area, this framework of SHFs will continue to be expanded and refined – it is not intended to be a closed-ended framework.

4.1.4 The use of something to hold on to factors in the macro-level interpretation process.

Listeners often combine several SHFs through associative relationships and a system of interpretative reinforcement in conjunction with other aspects of sound identification, description and interpretation strategies to form macro-level interpretations of the work's communicative aspects/meanings. Through the analysis of listener responses concerning what each work might be about combined with other pertinent response data, it is possible to establish a SHF framework that a particular listener has used to make sense of a work. It is also possible to reveal the associative relationships between these SHFs that the listener has used to further contextualise and reinforce her/his macro-level interpretation. A typical example of this process is listener 12InEx/NM whose interpretation of *ABZ/A* reads, “it’s about a journey to the seaside in France, by plane, then through a time warp to childhood.”¹²² The SHFs used to arrive at this macro-level interpretation are presented in **bold** and *italicised* text. The means through which the listener used these SHFs to establish his interpretation are presented in standard text.

Real world sounds.

Source – the sounds identified as an airport concourse and flying aircraft were interpreted as suggesting a theme of travel “a journey...by plane” (this interpretation was reinforced by several other factors listed below).

Homogeneity of real-world sounds – the *source* and *cause* sounds identified as waves on the seashore and seagulls were interpreted as indicating a seaside soundscape (resulting in a *location* SHF).

¹²² This first listening interpretation was not accurate in terms of the composer's communicative intent. It is simply a good example through which to demonstrate the use of SHFs in the macro-level interpretation process and how subjectivity plays a role in the interpretation process.

Location – the identification of a French location was based on a (mis)interpretation of the accordion as playing French music combined with the listener’s ‘going on a journey’ interpretation. The French location interpretation when associated with the previous elements has also reinforced the idea of a journey and of travel by aircraft. If this listener does not live in France then a journey to the French seaside would logically involve air travel (it could also involve sea or train travel).

Voice – the identification of children’s voices and the sound identified as a swing has suggested the idea of childhood. This childhood interpretation has been contextualised and reinforced by the identification of an abstract sound section described as a “time warp” and the identification and interpretation of a *Narrative* structure (these are described below).

Abstract sound interpretation.

In section 2.46-3.59 the listener used a *parameters of sound* SHF involving an imaginative, micro-level symbolic interpretation of the *timbral quality* of the sound to realise his “time warp” interpretation. This interpretation when associated with the sounds identified as relating to children has been interpreted as symbolising going back in time to childhood.

Structure.

Narrative (real-world) – the listener identified a series of discrete scenes and sections in the work: inside a café, moving outside, at an airport, a street in France by the seaside, abstract sound section at 2.46-3.59 (interpreted as a time warp) and a children’s playground. He has interpreted the episodic temporal progression of the identified and interpreted sounds from a logical perspective as indicating a journey (moving from scene to scene). The logical order of these elements was important to this listener’s interpretation. This is particularly so with the sound interpreted as symbolising a “time warp” being followed by the sounds identified as sounds of children, the listener has made an associative connection with the sound interpreted as a time warp with the concept of going back in time to childhood. The sounds identified as the seaside have also reinforced this interpretation, perhaps based on the listener’s personal memories of going on holiday to the seaside as a child.

The list of SHFs for this listener reads: *real world sounds, source, cause, location, voice, homogeneity of real-world sounds, abstract sound interpretation (a micro-level interpretation), parameters of sound, timbral quality, structure, narrative (real-world).*

Using this method it is possible to identify the pertinent SHFs for each listener in each work and so establish the most pertinent listener-based SHFs for a particular work. This is very useful as feedback data for composers. It indicates the pertinent factors that are being identified and used to interpret the work's meanings and so may indicate the areas where the communication of communicative intent is not so strong, these areas may then be addressed by composers in future works if they wish, through dramaturgic information. This system of SHF categorisation¹²³ is itself useful in this regard as a potential tool of access as it allows for the composer of a work to indicate a general listening strategy for the listener to follow. The three test works used as test material could be categorised in the following manner using this system.

ABZ/A – SHFs (as indicated by the CIQ):

Real-world sounds – *source/cause, location.*

Parameters of sound – *morphology [wave shapes].*

Structure – *juxtaposition of sound (real-world).*

Transformation – *dynamic transformation.*

Homogeneity of sounds – *real-world sounds.*

Extrinsic information – *title.*

Deep Pockets – SHFs:

Real-world sounds – *source/cause, voice, location.*

Parameters of sound – *timbral quality, movement, rhythm.*

Transformation – *static transformation.*

Homogeneity of sounds – *real-world sounds, parameters of sounds.*

Extrinsic information – *dramaturgy.*

¹²³ A system proposed by (Landy, 1994b).

Nocturne – SHFs:

Parameters of sound – *timbral quality, movement [proximity shifts]*.

Structure – *layers of sound*.

Homogeneity of sounds – *parameters of sounds*.

This system is obviously dependent on the listener understanding the system of classification and also what each category means.

4.2 The title and dramaturgy as tools of access.

Analysis of listener response data has revealed the extent to which a work's title and dramaturgic information have been used by the listeners as a means through which to engage with the work. This analysis concentrates on the InEx user group, as a principal goal of this study has been to identify the extent to which such contextual information is useful as a tool of access and appreciation for InEx listeners.

4.2.1 The title as a something to hold on to factor.

Most InEx listeners used the title as a tool of access and felt that the title helped the listening experience. Most felt that the title helped them identify certain sounds (relative to their interpretation of the meaning of the title) and that it also helped them to interpret what the work might be about. Analysis of statistical results concerning the influence of the title on the listening experience reveals that in *ABZ/A* 39% of listeners (40% of core group) used the title as a SHF, in *Deep Pockets* – 91% (85% of core group) and in *Nocturne* – 97% (100% of core group).

The spurious result for *ABZ/A* is a result of the ambiguity of the title, listeners could not use it to contextualise what they were hearing as they were unsure as to what it meant. In post-testing discussions InEx listeners were asked if they felt that in general, the title of a work was an important aspect in terms of helping them get to grips with a RWE/A work. 82% stated that it was in these cases, several noted (in discussions following *ABZ/A* testing) that if the content of *ABZ/A* had not been so accessible (based on its predominantly real-

world, recognisable content and the ease with which listeners were able to construct a macro-level interpretation of its communicative function) they would not have enjoyed the work as much as they would have looked to the title for extra help.

Four categories of influence.

The title influenced the listeners' macro-level interpretation of the work in four general ways:

Developed interpretation – listeners who offered no interpretation as to what the work might be about after the first listening developed interpretations based on their interpretation of the title during the second listening.

Changed interpretation – listeners who had an initial interpretation as to what the work might be about after the first listening changed their interpretation to comply with their interpretation of the title.

Enhanced interpretation – listeners who had an initial idea as to what the work might be about after the first listening used their interpretation of the title to enhance their original interpretation.

Reinforced interpretation – listeners who had an initial idea as to what the work might be about after the first listening integrated their interpretation of the title into their original interpretation, reinforcing their original interpretation without necessarily enhancing or altering it.

4.2.2 Dramaturgic information as a something to hold on to factor.

Most InEx listeners used the provided dramaturgic information as a tool of access and felt that it helped the listening experience. Most felt that the information helped them listen for and identify sounds that were important in terms of the composer's communicative

intention. Analysis of statistical results concerning the influence of dramaturgic information on the listening experience reveals that in *ABZ/A* 91% of listeners (90% of core group) used the dramaturgic information to assist with the listening experience, in *Deep Pockets* – 76% (75% of core group) and in *Nocturne* – 70% (75% of core group). The higher result for *ABZ/A* is due to the lack of influence that the title had on the listening experience (and so listeners had to rely on the dramaturgic information for assistance). In *Deep Pockets* and *Nocturne* many listeners felt that their second listening experience had brought them closer to the intentions of the composer due to their use of the title as a SHF and so the dramaturgic information for these works was not used as much.

Dramaturgy was also demonstrated to be most useful as a SHF in terms of the abstract/transformed sounding content and its communicative function. In *Deep Pockets*, 57% of InEx listeners (55% of core group) used the dramaturgic information through which to understand and appreciate the communicative purpose of the abstract/transformed sounding content. Most InEx listeners, having established the environmental provenance of the work during the first and second listening and not having understood the reason for the abstract/transformed sounding content, used the composer's 'inherent musicality/acoustic quality' intention as a SHF through which to explore the work during the third listening. Being informed that the abstract sounds in *Deep Pockets* were transformed versions of the dominant pool playing sounds helped the listeners in terms of understanding these sounds as they now had a real-world relevance, they were not so alien. Such real-world relevance has been demonstrated to be a principal SHF that the InEx listeners used to engage with all three works.

In post-testing discussions InEx listeners were asked if they felt that in general, dramaturgic information was an unimportant or important aspect in terms of offering them a way in to such works; 88% stated that it was important. Many noted that it was particularly important for understanding the communicative function of the abstract sounding elements in a work. Several listeners, mostly from the InEx user group and to a lesser extent the Ex user group noted that being given information concerning why the composer had composed the work and what had inspired them to compose the work, helped them to appreciate how such everyday sounds could be used expressively, in particular how

such ‘normal’ sounds could stimulate the imagination. Several listeners noted that in *Deep Pockets* they thought that it was interesting how the composer had listened to the sounds of the pool hall and realised that she could recreate the scene in the listener’s imagination by using just the sounds. This stimulated a further discussion concerning how the sounds in all of the works always seemed to create a visual image in the mind and that this aspect made the listening experience engaging.

4.2.3 Repeated listening as an aid to the listening experience.

Analysis of statistical results concerning the influence of repeated listening on the listening experience reveals that in *ABZ/A* 82% of InEx listeners (80% of core group) felt that repeated listening assisted the listening experience, in *Deep Pockets* – 73% (70% of core group) and in *Nocturne* – 55% (50% of core group). The lower percentage for *Nocturne* was due to the lack of grand gestures and variety of sounds in the work, compounded by the InEx listeners inability to identify the subtle evolutions of the sounding content. The work sounded the same each time they listened, they were unable to find anything new.

The predominant reasons as to how repeated listening helped were:

Exploring the content in more detail.

Searching for new sounds.

Identifying and exploring abstract sounds.

Assisting in the creation of a stronger, more confident interpretation.

Listening to the work as a whole.

Thinking about what was being heard in terms of what it meant from a communicative perspective.

These results demonstrate that repeated listening encouraged ‘active’ listening, where the listeners explored the content in more detail each time. This appears to be contrary to the InEx listeners’ usual ‘passive’ listening strategy. The InEx listeners’ normal listening strategy generally involves hearing a work as a background ambience, something to sing along to or to dance to, they do not tend to think about the sounding content in terms of

individual sounding elements and what these sounds and the work as a whole might be communicating. In a popular music context, the presence of meaning (in terms of a verbally reproducible meaning) is most often a result of a work's lyrical content. In popular instrumental music the InEx listener does not normally actively search for a communicative expression based on the sounding content.

The notion of actively engaging with a RWE/A work during the listening experience is an important issue. E/A art music in terms of its sounding content and how this content has been organised by the composer in terms of communicating 'something' to the listener, either from a musically intrinsic or extrinsic perspective, requires the listener to actively engage in making some kind of sense out of the aural experience. Many E/A art works, in particular those types being investigated by the I/R project, are not intended for background listening, for example, a situation where the listener plays the work whilst going about other activities. All of the works used in the testing required some form of active listening in order to interpret the communicative intention of the work.

Response data demonstrates that InEx listeners were able to engage in an active listening approach and more importantly were not averse to such an approach. Active listening in terms of interpreting what the work might be about was most prevalent after the listeners had been presented with dramaturgic information about the work. The listeners used this information as a SHF through which to actively discover the sounding elements relative to this communicative intention. It is also important to note that after the first listening, listeners were asked to suggest what the work might be about and so may have felt that they should continue listening with a view to interpreting the meanings of the work during the second and third listening (the 'what might the work be about?' question therefore becomes a SHF).

Most InEx listeners began their active listening process by searching for real-world, referential sounds and meanings relative to these sounds. Their active exploration of abstract/transformed sounds was secondary and was most prevalent following the third listening when all pertinent dramaturgic information had been offered; at this stage the reasons for the use of abstract/transformed sounds had been revealed. As one listener noted, listeners had no choice but to listen repeatedly, the methodology required it. To address this

issue, during post-testing InEx listeners were asked if they felt that such music *required* repeated listening to get the most out of it; forty-three (73%) stated that they felt this to be the case. Further discussion revealed that those who did not feel that repeated listening was necessary felt that if they were given the title and dramaturgic information at the first listening they would be able to understand the work in one sitting. (Note that the majority of these listeners were in the musically educated group and so may well have felt that they had a greater ability in terms of understanding musical works.) It is important to note that this discussion created the most heated debate between the InEx listeners, concerning whether or not repeated listening is a fundamental requirement in the RWE/A music listening experience in order to get the most out of the work and to fully engage with its communicative content. Although consensus was not reached, listeners agreed that the extent to which repeated listening is required is perhaps relative to the amount of abstract/transformed and unrecognisable sounds in a work. Most noted that *ABZ/A* was the easiest work to access due to its predominantly real-world sounding content.

4.3 Access and appreciation – generalised results for the inexperienced user group.

ABZ/A – 73% found the work engaging (75% of core group).

73% stated that they would enjoy listening to similar works in the future (75% of core group).

Deep Pockets – 67% found the work engaging (70% of core group).

63% stated that they would enjoy listening to similar works in the future (60% of core group).

Nocturne – 58% found the work engaging (60% of core group).¹²⁴

¹²⁴ The lower result here may not accurately reflect the listener's enjoyment of the work's sounding content as the work's duration was listed as being a *least* engaging factor. The extended duration of the work influenced the listening experience in terms of the overall appreciation of the work. To address this I conducted an extra test on five previously untested, non-musician, InEx listeners (admittedly a small group). In this test I limited the duration of the work (*Nocturne*) to three minutes. None mentioned that duration was a problem, even when asked directly. However, three of the five did note that its abstractness and its unchanging content were a problem in terms of appreciation.

61% stated that they would enjoy listening to similar works in the future (60% of core group).

In general, all three works were enjoyed by a majority of InEx listeners and a similar majority stated that they were open to listening to similar works in the future. To confirm these statistics, in the final post-testing discussion sessions InEx listeners were asked if they would choose to listen to RWE/A works in the future if they were available; thirty-six (61%) stated that they would.

The most prevalent responses concerning what the InEx listeners found to be the most engaging aspects of the three test works were:

1) *Recognisable sounds.*

(ABZ/A 64%, *Deep Pockets* 67%, *Nocturne* 0%). Most listeners identified the sounds in *Nocturne* as *representing/sounding like* real world sounds rather than being actual recordings of real-world sounds.

2) *The imagery established through sounds.*

(ABZ/A 58%, *Deep Pockets* 55%, *Nocturne* 39%). All InEx listeners had an image-based listening experience and established an image-based interpretation of the communicative function of the work. This is a direct consequence of the InEx listeners' identification and use of recognisable, real-world sounds as SHFs.

3) *The sense of expectation as to where the aural journey would lead.*

(ABZ/A 45%, *Deep Pockets* 42%, *Nocturne* 24%). This result is lower for *Nocturne* as the InEx listeners in general did not detect a changing episodic content in this work. They homogenised the sounding content into a single, static, image-based soundscape and so did not feel that they were being led anywhere.

4) *The way the work stimulated the imagination.*

(*ABZ/A* 24%, *Deep Pockets* 29%, *Nocturne* 39%). *Imagination stimulation* was higher in *Nocturne* due to its abstract sounding content. Listeners had no choice but to imaginatively interpret the sounds, which for the InEx listeners (and a substantial percentage of the Ex listeners) concerned creating real-world references; the other alternative would be to stop listening. The fact that all listeners were able to establish an imaginative, real-world interpretation confirms the InEx listeners' ability to engage in 'active listening'.

5) *Narrative structure/content, being taken on a journey through sound.* (*ABZ/A* 36%, *Deep Pockets* 21%, *Nocturne* 0%). This result appears to be relative to the listeners' identification of an episodic structure in a work. See (3) above for an explanation.

6) *The surreal/ambient quality of the sounds/work.* (*ABZ/A* 0%, *Deep Pockets* 18%, *Nocturne* 33%). Appreciation of this factor appears to be relative to the presence and communicative use of abstract/transformed sounds. It is important to note that only musically educated listeners highlighted these characteristics as being the most engaging aspects.

These six categories were the principal means through which the InEx listeners appreciated the types of work represented in this study.

The most prevalent responses concerning what the InEx listeners found to be the least engaging aspects of the three works were:

1) *Abstract sounds that were indecipherable and/or that did not seem to fit.*

(*ABZ/A* 61%, *Deep Pockets* 58%, *Nocturne* 43%). Note that in *Nocturne* particular sound types were mentioned: "ringing sound", seven responses, "humming sound", four responses. Both sounds did not fit within the general, predominant interpretation of a natural, organic sound environment. In *ABZ/A* the dominant sounds were identified as real-world sounds and the dominant interpretation of these sounds was based on their real-world imagery ('a sense of place') and so most listeners could not understand the relevance of the abstract/transformed sounds in this context.

2) *Lack of narrative structure/content.*

(ABZ/A 0%. *Deep Pockets* 39%, *Nocturne* 55%). The number of responses in this category compared with those who suggested that narrative was one of the *most* engaging elements [see (3) and (5) above] confirms that this is an important element in the InEx listener's appreciation of a work.

3) *Duration.*

(ABZ/A 9%. *Deep Pockets* 9%, *Nocturne* 33%). ABZ/A - duration 5:05, *Deep Pockets* - duration 4:10, *Nocturne* - duration 8:32.

4) *Unchanging sounding content.*

(ABZ/A 0%, *Deep Pockets* 15%, *Nocturne* 45%).

Note that duration as a least engaging factor may also be relative to sounding content as a least engaging factor. In *Nocturne* many listeners felt that the unchanging content was a problem and when this was coupled with the duration of the work it enhanced the feeling that duration was a problem (and vice versa).

5) *Lack of a discernible meaning.*

(ABZ/A 3%, *Deep Pockets* 12%, *Nocturne* 27%).

Although this result does appear to map on to the abstraction factor, it is important to note that this may be based on the perceptual abilities of the listener.

These most/least engaging elements indicate that most InEx listeners accessed and appreciated the work through real-world sounds and references, both through a direct identification of the sound source and through an imaginative interpretation of the sound source. The means through which they interpreted the work was relative to this real world content and so their appreciation of the work was also based on the real-world referential content. This may well explain why access and appreciation decreased as the presence and use of abstract/transformed sound increased. Results do demonstrate that when InEx listeners are offered information that relates to the abstract content (the reasons for its presence in the work), they are able to identify and understand its use (from both a real-

world referential and to a significantly lesser extent a musical/acoustic perspective), and so use it to appreciate the work.

4.4 Final conclusions.

This investigation has revealed that there is a thriving theoretical discussion amongst E/A art music practitioners concerning research in the areas of composer intention and the listening experience. There appears to be a renewed vigour towards studying the relevance of the real-world referential aspects of E/A art music from a perceptual perspective in terms of engaging with a broader audience. Taking this growing area of theory and research as a point of departure for my study I have identified certain gaps in the current research in this area. In particular, a general lack of empirical research concerning the listening experiences of listeners outside of the professional, academic, E/A art music community. My question in this regard has been, might these un-accessed listeners actually represent a new potential audience for certain types of E/A art music?

To investigate the issues concerning intention and reception I have devised a dynamic empirical methodology based on a dramaturgic aesthetic approach that through its application has solicited data that reveals a real potential to disseminate RWE/A works of the type represented in this research to new potential audiences. My investigation of the issues of access, appreciation and dissemination was based on addressing and testing the access hypothesis and access theory.

Hypothesis – E/A art music is accessible to a broader audience than that which it reaches at present, particularly in works that contain or are perceived to contain real-world sound references.

Theory – By being offered something to hold on to (e.g., dramaturgic information) inexperienced listeners will be more able to access and appreciate a work and so have an engaging and enjoyable listening experience.

The application of the I/R methodology has revealed data that demonstrates the accessibility of the types of work represented in this study, highlighting the InEx listeners' ability to understand, appreciate and (most importantly) to have an enjoyable and stimulating listening experience that they would like to repeat. Where access and appreciation has been demonstrated to be problematic for these listeners (most often in areas related to sound abstraction), the study has clearly shown that when offered pertinent aspects of a work's dramaturgy listeners are able to use this information to assist their listening experience in problematic areas. Listeners are able to use the information to engage with the work in more detail; identifying the pertinent sounds, how they function as a whole and so establishing an overall interpretation of the communicative aspects of the work that are relative to the communicative intentions of the composer.¹²⁵

Measuring composer intention against listener response has revealed that many aspects of the composers' communicative intentions in the test works were received by a majority of listeners from all user groups. This indicates that the communicative content of RWE/A music does speak to a shared listening experience across all levels of experience. Results from this area of the investigation have also generated data that is useful in terms of feedback. Data solicited by the I/R methodology concerning the areas of strongest and weakest communication in terms of access and appreciation offers practitioners pertinent information through which they may compositionally and dramaturgically address areas of weak communication in future works and so strengthen communication. This may lead to further access, appreciation and dissemination. This approach is not asking composers to change their style, but instead to reflect on those aspects of E/A art music that are and are not coming across. This form of triangulation is a twenty-first century means of criticism and art development. (Landy, 2005).

The means through which listeners establish communicative meanings in the work has been identified through an investigation of the SHFs. A generalised schema of SHFs has been established based on response data from all user groups. This information is useful

¹²⁵ Another trial using my I/R methodology took place whilst I was completing this PhD. The data collected in this trial supported the results of my PhD study. The account of this trial can be found in (Landy, 2005).

to practitioners in the field as information through which they can understand the general strategies used by a potential new audience to access and appreciate certain types of E/A art music. As demonstrated in chapter 4.1.4, the SHF schema can also be used in its abbreviated format to indicate a pertinent, general listening strategy for a particular work or corpus of works.¹²⁶

It is my hope that the positive results of this study will stimulate and inspire other practitioners, musicologists, researchers and composers to use the I/R methodology as a template through which to continue addressing the issues of access, appreciation and dissemination from a practical, empirical perspective; that is, rather than only continuing what is becoming a growing discussion on the *theoretical* potentials for greater access and dissemination. One of my goals has been to establish a field of research that gives a renewed focus to a form of sound-based expression that (though this particular investigation) has been empirically demonstrated to be relevant to persons outside of the E/A art music community. Not only in terms of the listening experience, but also as an art form in which ‘non-specialists’ can participate *creatively*.

The type of works investigated in this study establish a meaning-based communication through aural experiences that are relative to the lived experiences of all potential audiences (they are an art form that reflects life, often quite directly). Their *creative* production does not necessarily require specialised compositional knowledge for those seeking to communicate something through the medium. This is precisely the idea that has been addressed by the I/R project – access, appreciation and dissemination requires making the art work for those appreciating it. Specialised E/A art music knowledge is not a fundamental requirement in this respect. As the following example concerning Trevor Wishart’s keynote speech at the 1994 International Computer Music Conference demonstrates.

[Wishart] played a sound example of a piece and asked whether anyone could guess who had made it. The fragment demonstrated inventiveness.

¹²⁶ A similar idea to this is discussed in chapter 4.5.1.

Many people thought that the piece had been made by ‘one of us’. In fact the piece had been made during a community residency with the elderly, people who had never heard this type of music before. This example...suggests access where it is assumed impossible, sophistication when it is not necessary, a group process when individuals think that they must work in isolation, and triangulation as they all needed to make their adventure in sonic art work for each other. (Landy, 1999: 68-69)

4.5 The Future – where does this project go from here?

The I/R project has revealed a potential for greater access, appreciation and dissemination in certain areas of E/A art music than is currently the case. Obviously it is not possible for a single study such as this, alone, to *establish* greater access, appreciation and dissemination in E/A art music. This is why the I/R methodology has been designed as a template through which other similar studies can be conducted. It is very important that similar studies do continue in the future, but it is especially important that the *results* of such studies are made accessible to researchers and practitioners. With this in mind, I propose that it may be possible to establish an internet-based database containing pertinent results of similar studies.¹²⁷ These results would be presented in a summary type format, indicating key findings. This database would be used as a point of reference for other researchers in the field through which they could identify what particular types of works have and have not been studied, thereby presenting areas that are open to investigation and so significantly broadening the field of research. This point of reference could also be used by E/A art music composers as a means through which to gather information concerning the *actual* (first-hand) rather than *theoretical* (second-hand) listening experiences of new (and even existing) audiences when listening to various types of E/A art music. This would offer E/A art music composers important listener response feedback indicating what aspects of particular types of works listeners are able to engage with, understand and appreciate – this could take the form of a list of listener response SHFs relative to particular types of works. However, simply understanding how and why such works appeal to this new audience will not by itself establish broader accessibility and dissemination.

¹²⁷ Similar databases do exist, several of which are discussed in (Mountain, 2004a: 306).

There are many existing works that have a content and communicative intent that are accessible to a broader audience. As the I/R project has demonstrated, it is also possible to offer listeners a helping hand in terms of indicating how they might listen to the work or body of similar works in order to engage with and appreciate such communicative aspects. But it is not enough to simply hope that listeners outside of the E/A art music community will find their own way to these types of work. An active approach towards establishing broader dissemination and access requires finding the means of making the listeners aware that such music exists in the first instance. “[P]eople may have shoes, but that doesn’t mean they know where to go.” (Chadabe, 2004a: 316)

4.5.1 Marketing electroacoustic art music.

Rosemary Mountain has written an article that may represent the next logical step in terms of in the wider dissemination of E/A art music, that is, once potential accessibility has been demonstrated through further studies. In *Marketing strategies for electroacoustics and computer music*, she

explores the possible strategies for appraising electroacoustic and computer music to enhance ‘marketability’. [Proposing] that the specific aesthetics, characteristics and function of a work may be more salient features than those of the medium of composition...to many listeners [...and that perhaps] the time is ripe for shuffling the categories and regrouping composers’ works according to aesthetic preferences [...]
(Mountain, 2004a: 305)

Noting that the term ‘marketing’ often implies a practice conducted by “unscrupulous money-grubbers...and colleagues who ‘push’ themselves and their works to granting agencies [...]” (Ibid.) Mountain proposes approaching the idea from a perspective of promotion. Such a campaign should not however, be one that simply urges people to ‘LISTEN TO COMPUTER MUSIC’! (her emphasis) but one that involves researchers, educators, lobbyists, advertisers, and even composers themselves. (Ibid.: 310) An important addition to this list would be the communications media. The first step in this process would be to address the issue of categorisation, for example,

Although it is not uncommon in Montreal to see ‘techno’, ‘house’ and similar categories, ‘electroacoustic and computer music’ does not fit so well into the classification system...For the best marketing strategies I would recommend looking for the most salient features of a particular work and grouping it with comparable ones, regardless of whether it is exclusively, partially, or not at all composed with electronic sounds or computer programs. (ibid.: 307)

The I/R project has established a methodology that can be used to reveal the salient features of an E/A art work from the listener’s perspective. The salient features that are most informative in terms of marketing are those identified by the listeners as the most engaging aspects of the work as a whole, and those that can be generally applied to multiple works, for example,¹²⁸ “I really liked its eerie mood” – *emotive*, “I liked how it told a story through real sounds” – *real-world narrative*, “the most interesting thing was experiencing a sense of place just by listening to sounds” – *soundscape*, “I enjoyed the way the real sounds were turned into unreal sounds” – *transformation*, “I especially liked how the abstract sounds made me use my imagination to think of real images” – *referential abstraction*.

[I]f a feature is properly identified, then anyone who likes that feature is more likely to buy the product/ticket, even if other features are not typical draws for that individual, and...if marketing does its research thoroughly, then some popular (collective) preference profiles might emerge, stimulating coherent marketing strategies...There is little doubt that, armed with rich vocabularies and a few guidelines about salient features, the PR team could come up with some catchy and even relevant groupings for...CD’s: music that shares or exhibits complementary characteristics of sounds (rain, birdsong, fire, trains, clarinet) or their organisation (microtones, counterpoint, metre) or mood (eerie, cheery, wistful, chaotic)¹²⁹...one can imagine the advertising team helping the electroacoustic aficionados sell copies of their favourite compilations. Appropriately packaged and accompanied by programme notes of just the right tone [...] (Ibid.: 310 and 313)

¹²⁸ Actual listener response quotes, followed by a general categorisation.

¹²⁹ This system of categorisation is similar to that of the SHFs addressed in this thesis.

4.5.2 Pedagogic potential.

Unexpectedly the I/R methodology demonstrated a pedagogic potential; its use as an E/A art music listening exercise in the classroom. This idea was based on feedback from listener testing participants in both the InEx and Ex user groups, those who were currently engaged in music-based studies.

The I/R method provides the student listener with a means of listening to E/A art music from a relatively open perspective, yet in a controlled and structured situation that is guided by questionnaires and the methodology as a whole. The I/R method encourages the listener to explore the work and verbalise his/her own personal listening experience, rather than being instructed to analyse the work itself from a poietic perspective in the first instance. In the I/R method listeners are encouraged to reflect on the listening experience, thinking about why they identified the sounds that they did and why these sounds meant what they did for them. Listeners can re-read their own responses and those of other listeners and so analyse and evaluate these responses in a manner that can be structured to generate knowledge that has educational worth. In principal this is the same method that I used when analysing listener responses for this project; I was learning about the listening experience through analysis of verbally articulated listening experiences.

Providing the student listener with dramaturgic information in subsequent listenings of the same work should (in the educational situation) also include pertinent aspects of the poietic process, the compositional approaches used by the composer to technically produce the work. Such information is important when demonstrating how technology has been used to manipulate, transform and organise sounds from an intrinsic perspective, irrespective of whether or not such processes are integral to the composer's communicative intent. This is a different approach to that of a listening situation outside of the classroom where such poietic information might not (from the composer's perspective) be fundamental to the appreciation of the work in terms of its communicative aspects.

Through group discussion following the three listenings, the students are offered a means of sharing their listening experiences with others, this practice is important in terms of enhancing their ability to confidently express and discuss their experiences of a work or

corpus of works with others and will also highlight the diverse ways in which listeners make sense of what they are hearing. In general, the I/R method can be used to empower and encourage the student in actively participating in the generation of knowledge through personal exploration and discovery, yet also offers a system that is controlled enough to fit into a structured curriculum.¹³⁰

Electroacoustic art music in British education.

Although the I/R project has not been concerned with investigating the extent to which E/A art music features in the music curriculum in the UK. Anecdotal discussions with listener testing participants at both FE and HE levels has revealed that in their musical education at secondary level (key stages 3 and 4, ages 11-16) they were not exposed to E/A art music of the type being used for listener testing in this project.¹³¹ Interestingly, many musically educated InEx listeners, having taken part in the testing asked *why* they had not been exposed to E/A art music during their musical education, as it was such an unusual and interesting way of making music compared to the types of music that they had studied. Although the user group in this project was small and localised, the lack of exposure to E/A art music through education may be representative of the wider population.

Concerning music education and its relationship to issues of access, appreciation and the dissemination of E/A art music, Leigh Landy has noted,

Contemporary music and especially its experimental¹³² branch has been banished into some form of exile. My belief is that the commercialization of music within the communications media and the lack of attention given to experimental music in our schools combine to constitute the heart of the problem. If commercialization is the only way to go, then a “market” must be created. This can be done only through high quality music

¹³⁰ Note that this potential is speculative; further research in this area is required.

¹³¹ It is interesting to note that in 2002 the French equivalent to the UK's 'A' level music award involved a study of Jean-Claude Risset's RWE/A work, *Sud* a work that contained many real-world sounds (the sea, insects, birds) and that was described by Risset in the track note as “A sound photograph”. (Risset, J-C. (1987). *Sud*. Ina-GRM. Ina_C 1003). See <http://www.educnet.education.fr/musique/actualite/concours/baccalaureat/bac2002/sudintro.htm>

¹³² Landy's use of the term 'experimental music' includes using “sounds from the real world – our environment [...]” (Landy, 1994a: 16)

education that introduces the student to the diversity of the wide world of music and includes a focus on activities in experimental music, emphasizing its dynamic potential for creative discovery. (Landy, 1994a: 6)

The Qualifications and Curriculum Authority's (QCA), *Annual report on curriculum and assessment in music 2003/4*¹³³ offers thought provoking information concerning issues that may be related to the lack of E/A art music being studied at secondary levels in the UK. Regarding key stages three and four the report notes that,

The Ofsted¹³⁴ subject report *Music in secondary schools*...states that good breadth and balance is observable in fewer than half of schools. Focused meetings highlighted the difficulty some teachers experience in providing **meaningful experiences of music outside the Western Classical tradition**.¹³⁵ The reasons for this appear to be the lack of training, guidance and resources. On the positive side, what has changed is the teachers' recognition that something needs to be done. Only a few years ago, the need for breadth was not considered important, nor even appropriate, and the increasing realisation that music education should address a wider range of music has been a fundamental ground shift. **This shift has yet to work through the system in terms of training and resources.** The issue of breadth, though, is not just about providing more examples. It is also about **changing the teaching content to include aspects of knowledge not considered before.** To begin to understand unfamiliar music, teaching and learning need to include exploration of not only how the music is constructed but also how it is produced and how it reflects the context in which it is created, performed and received. These areas of knowledge are clearly included in the key stage 3 programme of study but remain the most challenging for most teachers. (QCA, 2004)

As a significant amount of E/A art music is also created through the use of technology, observations in this area also demonstrate why such music might not be receiving adequate attention in the classroom.

The Ofsted report states that the use of ICT in music remains an unsatisfactory aspect in over a quarter of schools. Effective strategies,

¹³³ See <http://www.qca.org.uk/11921.html>

¹³⁴ Office for Standards in Education.

¹³⁵ All bold sections in this quotation are my emphases.

such as using audio and video recording systems to provide evidence of work in progress, and to store work completed, are being used very infrequently. The Ofsted subject report for music states that ‘there are very few examples of music technologies being used as the stimulus for music activity, rather than a support’. (QCA, 2004)

In the “National Curriculum” documents of 1990 and 1992 the following statement was made,

A recent development which has given a fresh impetus to music education has been the increasing use of information technology, including electronics, in the classroom. Potentially at least, this has removed many barriers to music making by those pupils who lack complex musical skills. When used effectively, it can enable pupils to participate more in practical activities and to concentrate more on the imaginative and creative, as opposed to the theoretical aspects of music making. (“National Curriculum”, 1990: 64)

Despite this observation, it would appear that, based on the 2003/4 report, ‘unusual music outside the Western Classical tradition’ is still not finding its way into the classroom to any great extent. This is despite the fact that a substantial amount of such music *is* composed using technology and is *not* based on any particular, theoretical compositional model that one must master before being able to compose such works. The E/A art music community, particularly that which is located within the higher levels of the education system, is well placed to establish a lobby through which to actively address this situation. The first step may be to establish research that highlights the extent to which E/A art music and other forms of ‘unusual’ music are being incorporated into the curriculum and the extent to which resources and training relative to such music is being made available to teachers.

Musical creativity in education.

As technology removes many of the barriers to music making for students who lack complex musical skills based on established theoretical compositional models, so does E/A art music of the type being investigated by this project – RWE/A music. This has particular implications in terms of musical creativity in education, in that ‘it can enable pupils to participate more in practical activities and to concentrate more on the imaginative and

creative, as opposed to the theoretical aspects of music making'. The creation of a RWE/A work does not require having to compose the work following certain parameters dictated by a formal compositional model, consequently, anyone with access to music technology (and through basic instruction as to how to use it) can compose a RWE/A work. In this medium anyone is free to creatively explore the sound worlds of their choice and potentially produce a work that displays compositional virtuosity, aesthetic integrity and, based on the real-world referential nature of the content, a work that can communicatively connect with a broad audience. User-friendliness and the flexibility of the tools are also crucial factors.

The accessibility of RWE/A music in terms of creativity establishes a potential for active participation (in the educational situation) across all age groups; a factor that may have a significant influence in terms of widening participation and greater dissemination of E/A art music.

It is my firm belief...that when young children (for instance, from about four to six years of age) are introduced to the world of the creation of music with sounds, their desire to make that sort of music and to appreciate sound works of others can be enormous. (Landy, 1994a: 4)

Not only will the exposure to E/A art music in education both creatively and in terms of the listening experience give younger people a broader exposure to the variety of sound-based art works, it may also benefit the dissemination and public profile of E/A art music. If such music does become incorporated into the music curriculum, at all levels of education, to a greater extent than it appears to be at present (in the UK), it will be gaining greater exposure to a varied audience. This audience, having enjoyed their creative and listening experiences, may seek out such works for their everyday listening enjoyment and so actively contribute to the broader dissemination of E/A art music. Such growing interest and participation may in turn be noticed by the communications media and in consequence broader promotion may begin.

This idea may appear to be ethically unsound, interpreted as a means of *using* education to market RWE/A music. However, it is my belief (reinforced by the results of the I/R project) that such music is *already* an accessible art form. It is inclusive, both

creatively and experientially. It is one that reflects life in its use of real-world sounds and through its use of real-world sound references to communicate meaning – symbolism, metaphor, verbal message, etc. and so as an inclusive and accessible artistic medium can make an important contribution to access and widening participation in the arts world in general. In particular, through the I/R method of offering participants a way into art as an expressive means of communication that resonates with the lived experiences of the many, one that is not perceived as being intellectually or technically out of reach of the ‘ordinary’ person. RWE/A music is an art form that can also have a significant influence in the broader music world. Indeed, RWE/A music may well become a folk music medium of the future, a musical medium through which an individual may communicate aspects that are a reflection of their lived experiences from a cultural, national, political, ideological (and so on) perspective; as has much great art, including music, throughout history.

4.5.3 Further potential regarding widening participation, access and dissemination.

As discussed above, there is a potential to address widening participation in E/A art music from the creative side. This may be addressed through software development and the internet. A free software package could be developed, one that includes a simple sequencing interface and some basic DSP¹³⁶ plug-ins (again, user-friendliness would be a crucial design issue). This package could be linked to an internet-based sample resource where users can download free samples (not traditional musical samples, but environmental sounds) and so be able to create their own RWE/A works. This package could be linked to a database into which composers using this software can then upload their works and where these works could then receive listener reviews from other users, perhaps incorporating aspects of the I/R methodology.

There has been a growing number of internet sites where E/A art music is available for download. One example is SONUS (<http://www.sonus.ca/>). “SONUS is open to anyone from anywhere in the world making creative or exploratory audio with digital or analog

¹³⁶ Digital signal processing.

technologies - from live electronics to experimental electronica to audio art to sonic art and beyond..." (Austin and Naylor, 2003) Discussing the SONUS project Al Mattes notes that,

The problem, in my opinion, has always been that EA music is not widely heard, and therefore, not understood and supported. Since there is such a small audience there are few, if any distribution systems that promote and present EA music in an appropriate context...[The] open distribution system [used by SONUS] offers unparalleled opportunities for each composer and performer to access a central site that will become known as the place to go for new, innovative and exciting music. A site where downloads do not come with hidden coding that prevents additional copies being made. A site where the primary purpose is to provide a worldwide distribution network where music can be listened to and shared. (Mattes, 2003)

Platforms such as SONUS offer an exciting potential in terms of expanding the scope of I/R research. An adapted version of the I/R methodology could be incorporated into such a site. Composers who submit work to the site could be asked to complete a CIQ (including SHF categories) that would be made available for download along with their work (this would not be a mandatory requirement). Listeners would then be offered the opportunity to listen to a work and complete a listener response questionnaire that they would then upload to the database.

This system, if effective would establish a database of listener responses, many of which would be critical evaluations of works by listeners experienced in E/A art music; a system of critical evaluation/peer review that is currently lacking in E/A art music in general. It would provide interesting feedback for the composer concerning the listeners' experiences of their work. Depending on how many inexperienced listeners access the site and use the review procedure, this system would offer important feedback concerning inexperienced listener responses (the potential new audience so often mentioned in this thesis) and so expand knowledge concerning access and appreciation for this potentially new user group. It would be important for the questionnaires to ask the listener to categorise their E/A art music experience level, e.g., have they listened to such works before? Have they studied E/A art music? At what level?, etc. This will give an indication of the type of listener that is accessing the site, a means of measuring how many listeners

from outside the E/A art music community are accessing the site. This system would contain various sets of information, some that would only be for the eyes of the composer, some for the eyes of the researcher; it would therefore require a very careful filtering process.

One of the most exciting recent developments, in terms of bringing together the worldwide community of digital artists (including E/A art music artists) and actively promoting and encouraging widening participation in the digital arts is UNESCO's (United Nations Educational, Scientific and Cultural Organization) DigiArts Knowledge portal. "DigiArts is one of UNESCO's major initiatives aiming at the development of interdisciplinary activities in research, creativity and communication in the field of media arts." (DigiArts site) One of its aims is to "encourage the use of electronic software among the youth for electronic communication and creation." (Ibid.) This aim is addressed through the 'Young Digital Creators project':

A web-based project that allows young participants of different cultures to gradually construct, through a collaborative process and creative digital tools, a deeper understanding of each other's cultural values, special reflections and general concerns related to major issues of our time: Water, HIV/AIDS, Urbanization, Linguistic diversity, and the History of Africa. Using creative artistic software with an open interdisciplinary approach to knowledge, young people will be able to create a series of textual, musical, visual or/and multimedia materials (in progress creative works). The creation of digital art works will be synchronized with on-line discussion forums of exchanging views. Virtual and live exhibitions, concerts are also to be organized in line with the programmes." (Ibid.)

The DigiArts site includes a particular portal dedicated to music using technology: (http://portal.unesco.org/culture/en/ev.php-URL_ID=2140&URL_DO=DO_TOPIC&URL_SECTION=201.html). [Visited April 2005].

There are two current projects (April 2005) undergoing development and actively seeking participation that are of interest from a RWE/A music perspective:

The Sound of Our Water project: (http://portal.unesco.org/culture/en/ev.php-URL_ID=9463&URL_DO=DO_TOPIC&URL_SECTION=201.html).

[Visited April 2005].

The Sound of Our Water is one of the Young Digital Creators programmes, through which young people can reflect on water issues, either connected to daily life or related to specific issues such as environment, culture, etc, and integrate digital sound into their own creation of water soundscape. (Ibid.)

The Scenes and Sounds of my City project: (http://portal.unesco.org/culture/en/ev.php-URL_ID=25533&URL_DO=DO_TOPIC&URL_SECTION=201.html).

[Visited April 2005].

Through this programme, young people are able to investigate their urban environment, share experiences on their cities. The aim is to create a digital project consisting of a series of artistically modified pictures along with sounds of their cities. (Ibid.)

At present the DigiArts Knowledge Portal site is still in the early phase of development. However, the site has enormous potential when considering the status of UNESCO in terms of its worldwide identity and the resources that it has at its disposal. Through projects such as those above new pathways leading to artistic/creative discovery and expression through the digital/technology-based arts are being made accessible to a broader, increasingly younger and culturally diverse international population. RWE/A music (a digital/technology-based art form) is an inclusive art form – both creatively and in terms of the listening experience (as demonstrated through the I/R project). Hence it occupies a potentially strong position through which it may take the lead in terms of actively contributing to such projects as UNESCO's DigiArts Knowledge Portal, and so actively establishing wider participation in the E/A arts.

The I/R project, in relation to the issues discussed above, is in a good position to make a strong contribution throughout the field of E/A art music. Its methodology can be used as a template for further research in the areas of intention, reception, access and appreciation. The results of the implementation of the I/R methodology in terms of

demonstrating the potential for greater access and appreciation with regards to new, inexperienced audiences may invigorate the access debate and instigate direct action in terms of actively seeking out and attracting new audiences (marketing). As new audiences are discovered, the methodology as a listening exercise, an introductory approach for listening to E/A art music, offers a helping hand in terms of indicating to the new audience how to listen and what to listen for. This is achieved by encouraging active listening and by offering a helping hand in areas that have been demonstrated (by the I/R project) to be difficult for the first time listener. This extra assistance can be offered through the use of a SHF system of categorisation and by offering the listener pertinent dramaturgic information.

Through its potential to be integrated into various internet-based projects the I/R methodology has the ability to access a broad audience both within the E/A art music community and outside the E/A art music community. Indeed, the methodology has the potential to be adapted for use in investigating other forms of art from an audience response perspective, for example, audience responses to sculpture, painting, photography, etc. The dramaturgic aesthetic approach of studying audience responses in relation to the artists' communicative intent can offer other art forms a means of assessing the potential accessibility of new audiences. As with E/A art music the I/R methodology can also be used as an art experiencing exercise in general, using a similar method of offering audiences a way in to the works through dramaturgic information.

The I/R project demonstrates that through a dynamic, user-centred approach to access and appreciation, widening participation in RWE/A music can be vigorously addressed based on empirical, first-hand evidence gathered from the participants themselves rather than relying on the theoretical speculations and individual experiences of the specialists in the field. By offering listeners something(s) to hold on to, encouraging an active approach to listening, the alienation that some listeners may feel when first hearing such works may be relieved thereby stimulating the potential for broader appreciation particularly concerning listeners who are new to the field.

APPENDIX I. LIST OF ABBREVIATIONS.

I/R – Intention/Reception.

E/A – Electroacoustic.

RWE/A – Electroacoustic art music works that contain or are perceived to contain real-world sound references.

SHF(s) – Something to hold on to factor(s).

AR – Action research.

CIQ – Composer intention questionnaire.

CIQ(1-19) – Particular question numbers in the questionnaire.

RTQ – Real-time questionnaire.

RTQ1 – First listening responses.

RTQ2 – Second listening responses.

RTQ2a – ‘What might this piece be about?’ responses.

RTQ2b – ‘How did the title influence listening?’ responses

RTQ3 – Third listening responses.

RTQ3a – ‘How did the intention information influence listening?’ responses.

RTQ3b – ‘How did repeated listening influence listening?’ responses.

DQ – Directed questionnaire.

DQ(1-12) – Particular question numbers in the questionnaire.

Listener categorisation key.

InEx – Inexperienced listener.

Ex – Experienced listener.

HiEx – Highly-experienced listener.

NM – Non-musician.

M – Musician.

Test work title abbreviations.

AB – ABZ/A.

DP – *Deep Pockets*.

NOC – *Nocturne*.

APPENDIX II. ETHICS PROCEDURES.

From: The Research Degree Procedures of De Montfort University.

The adoption of an ethical position in respect of [human] research requires that the researcher observes and protects the rights of would-be participants and systematically acts to permit the participants to exercise those rights...

Any research which involves others as participants creates the possibility of an invasion of the participants' interests or rights. Social research involving interviewing or observation especially where veridical records (particularly on audio or video tape) are kept, may impinge on the confidentiality, privacy, convenience, comfort or safety of others. Such threats constitute ethical problems.

An ethical approach to this work requires that participants, at a minimum, be fully informed of their rights, volunteer without inducement, be free to opt out and be given written undertakings as to how their rights and interests will be protected.

APPENDIX III. RESEARCH PARTICIPATION AGREEMENT (1).

The Intention/Reception Project Research Participation Agreement

Please complete and return to:

Rob Weale
Postgraduate Student/Part-time Tutor
The Music, Technology and Innovation Research Group
De Montfort University
Faculty of Humanities
Clephan Building
Leicester
LE1 9BH, UK

Participants Name:

Agreement between *participant* and *researcher*.

As a participant in the Intention/Reception Project, I confirm that I understand and agree to the conditions and procedures concerning my involvement in the project.

Signed:

Date:

Email:

APPENDIX IV. RESEARCH PARTICIPATION AGREEMENT (2).

The Intention/Reception Project Research Participation Agreement

Please keep this section for your records.

Agreement between *researcher* and *participant*.

As the researcher in the Intention/Reception Project, I confirm that I understand and agree to the conditions concerning my involvement in the project. I confirm that I will follow strict ethical procedures at all times.

I confirm that all participants in the research project, both composers and listeners will remain anonymous.

I confirm that at no time will any of the compositions provided by the participants be broadcast in any way, shape or form other than during the 'listener response' testing procedures.

Name: Robert John Weale

Signed:

Email: rjayw@hotmail.com

APPENDIX V. REAL-TIME LISTENER RESPONSE QUESTIONNAIRE (PILOT TESTING VERSION).

The Intention/Reception Project: Real-Time Listener Response Questionnaire

Please complete the following (BLOCK CAPITALS)

Name:

Date of birth (dd/mm/yy):

Sex (m/f):

Ethnic origin:

Country of permanent residence:

What is (are) your general musical taste(s)?:

(You may state specific genres, e.g. metal,
orchestral, indie, banga, rock and roll, jazz etc;
and/or specific groups, bands, artists,
E.g. Elvis, Stereophonics, Beastie Boys,
Miles Davis, Aretha Franklin etc.)

1st Listening

Please list any thoughts, images and/or ideas that come to mind as you listen to the composition:

2nd Listening

Please list any new thoughts, images and/or ideas that come to mind as you listen to the composition now that you are aware of the title of the composition:

Please elaborate as to why being provided with the title of the piece helped you or hindered you in becoming more engaged with the piece and/or helped you or hindered you in understanding the piece?

3rd Listening

Now that you are aware of the composer's intentions, please list any new thoughts, images and/or ideas that come to mind, or try to expand on any ideas that you have as you listen:

Please elaborate as to why being provided with the composer's intentions for the piece helped you or hindered you in becoming more engaged with the piece and/or helped you or hindered you in understanding the piece?

APPENDIX VI. REAL-TIME LISTENER RESPONSE QUESTIONNAIRE (FINAL VERSION).

The Intention/Reception Project: Real-Time Listener Response Questionnaire

Please complete the following (BLOCK CAPITALS)

Name:

Date of birth (dd/mm/yy):

Sex (m/f):

Ethnic origin:

Country of permanent residence:

What is (are) your general musical taste(s)?:

(You may state specific genres, e.g. metal, orchestral, indie, bangra, rock and roll, jazz etc; and/or specific groups, bands, artists, E.g. Elvis, Stereophonics, Beastie Boys, Miles Davis, Aretha Franklin etc.)

1st Listening

Please list any thoughts, images and/or ideas that come to mind as you listen to the composition:

If you run out of space to write please continue on the reverse side of the pages

2nd Listening

Now that you are aware of the *title* of the composition, please list any new or altered thoughts, images, ideas that come to mind, or try to expand on any ideas that you have as you listen:

What might this piece be about?

Did knowing the *title* help you to understand the composition?
If yes, why?

If no, why not?

3rd Listening

Now that you are aware of the *composer's intentions*, please list any new or altered thoughts, images and/or ideas that come to mind, or try to expand on any ideas that you have as you listen:

Did knowing the *composer's intentions* help you to understand the composition?
If yes, why?

If no, why not?

How did repeated listening help you in understanding the piece?

APPENDIX VII. THE DIRECTED QUESTIONNAIRE (FINAL VERSION).

The Intention/Reception Project: Directed Questionnaire

(Candidates may refer to their initial listening notes when answering the following questions.)

PRINT YOUR NAME:

1) What might this piece be about?

2) What sounds did you recognise in the composition?

3) If you heard sounds that were strange and/or unnatural, please describe (if you can) one/some/any of them?

4) Did the composition conjure images/pictures in your mind?
If so, please describe them?

**5) Did the composition suggest a narrative, be it a story or any other time-based discourse?
If so what might this concern?**

**6) Did the composition seem to convey any emotion(s)? And/or did you have any
emotional responses to the piece?
If so, please describe them?**

5

7) What aspects, musical or otherwise did you find most engaging in the composition?

8) What aspects, musical or otherwise did you find least engaging in the composition?

9) Did the composition make you want to keep listening or was it uninteresting?
Why?

10) Now that you have heard the composition, would you choose to listen to a similar type of composition again in the future?
If yes, why?

If no, why not?

11) Now that you have heard the composition, would you choose to purchase a CD containing this type of composition?
If yes, why?

If no, why not?

12) Now that you have heard the composition, would you choose to attend a concert featuring these types of compositions?
If yes, why?

If no, why not?

APPENDIX VIII. SOMETHING TO HOLD ON TO FACTOR CATEGORIES.

A) Real world sounds.

- i) Source/cause.
- ii) Voice.
- iii) Location.

B) Parameters of sound.

- i) Timbral quality.
- ii) Spatiality.
- iii) Dynamics.
- iv) Movement.
- v) Morphology.
- v) Pitch.
- vi) Rhythm.

C) Structure.

- i) Narrative (real-world).
- ii) Narrative (acoustic)
- iii) Layers of sound.
- iv) Juxtaposition of sound (real-world).
- v) Juxtaposition of sound (acoustic).

D) Transformation.

- i) Static transformation.
- ii) Dynamic transformation.

E) Homogeneity of sounds.

- i) Real world sounds.
- ii) Parameters of sounds.

F) Extrinsic Information.

- i) Title.
- ii) Dramaturgy.

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